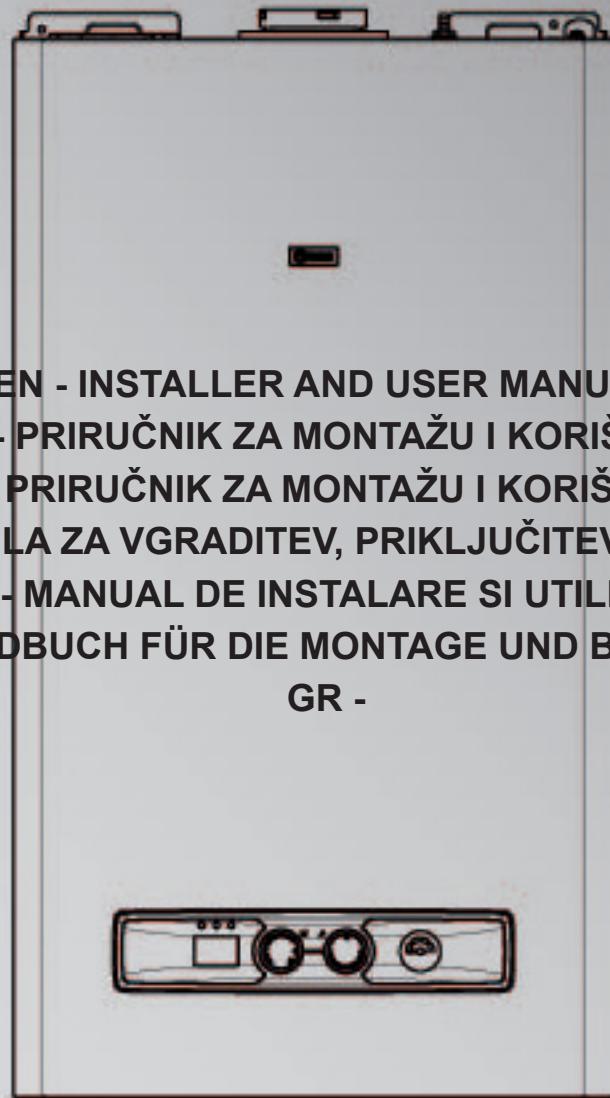


# Caldariello Condens 25 KIS



EN - INSTALLER AND USER MANUAL

SRB - PRIRUČNIK ZA MONTAŽU I KORIŠĆENJE

HR - PRIRUČNIK ZA MONTAŽU I KORIŠTENJE

SL - NAVODILA ZA VGRADITEV, PRIKLJUČITEV IN UPORABO

RO - MANUAL DE INSTALARE SI UTILIZARE

DE - HANDBUCH FÜR DIE MONTAGE UND BENUTZUNG

GR -



**RIELLO**

EN

**Caldariello Condens 25 KIS** boilers comply with the essential requirements of the following Directives:

- Gas Appliance Directive 2009/142/EC
- Efficiency Directive 92/42/EEC
- Electromagnetic Compatibility Directive 2004/108/EC
- Low Voltage Directive 2006/95/EC

and therefore bears the EC marking



0694  
0694CL6033

#### RANGE RATED

This boiler can be adapted to the thermal requirements of the system; it is possible, in fact, to set the maximum boiler delivery for operation in heat mode. Refer to the "Adjustments" chapter for the calibration settings.

Once the desired output has been set (maximum heating) transfer the value into the table given on the back cover.

For subsequent checks and adjustments, always refer to the set value.

SRB

Kotao **Caldariello Condens 25 KIS** je usaglašen sa osnovnim zahtevima sledećih direktiva:

- Direktivom za plinske uređaje 2009/142/EC
- Direktivom o efikasnosti 92/42/EEC
- Direktivom o elektromagnetskoj kompatibilnosti 2004/108/EC
- Direktivom za niskonaponske uređaje 2006/95/EC

zbog čega je nosilac CE oznake



0694  
0694CL6033

#### RANGE RATED

Ovaj kotao se može prilagoditi topločnim potrebama sistema, naime, moguće je podešiti maksimalan kapacitet rada grejanja samog kotla. Pogledajte poglavje "Podešavanja" u vezi kalibriranja.

Kada podešite željeni kapacitet (maksimalno grejanje) unesite vrednost u tabelu koja se nalazi na poslednjoj strani.

Za naknadne provere i podešavanja pozvati se na podešenu vrednost.

HR

Kotao **Caldariello Condens 25 KIS** u skladu je s temeljnim zahtjevima iz slijedećih Direktiva:

- Direktiva za plin 2009/142/CE
- Direktiva o učincima 92/42/CEE
- Direktiva o elektromagnetskoj kompatibilnosti 2004/108/CE
- Direktiva o niskom naponu 2006/95/CE

stoga nosi oznaku CE



0694  
0694CL6033

#### RANGE RATED

Ovaj kotao može se prilagoditi termičkim potrebama instalacije, odnosno moguće je podešavanje maksimalnog protoka za grijanje samog kotla. Informacije o baždarenju potražite u poglavljiju "Podešavanja".

Nakon što podešite željenu snagu (najjače grijanje), napišite vrijednost na isporučenu najlepnicu.

Prilikom idućih kontrola i podešavanja pogledajte podešenu vrijednost.

SL

Kotel **Caldariello Condens 25 KIS** je skladen z bistvenimi zahtevami naslednjih direktiv:

- Direktiva o napravah na plinsko gorivo 2009/142/ES
- Direktiva o izkoristkih 92/42/EGS
- Direktiva o elektromagnetski zdravljivosti 2004/108/ES
- Direktiva o nizkonapetostni opremi 2006/95/ES

zato je nosilec CE oznake



0694  
0694CL6033

#### RANGE RATED

Ta kotel se prilagaja potrebam sistema po topotli, največjo ogrevalno zmogljivost samega kotla je namreč mogoče nastavljati glede na potrebe ogrevanja. O umerjanju kotla glejte poglavje "Nastavite".

Ko želeno moč nastavite (največja moč ogrevanja), to vrednost vpišite v tabelo, ki se nahaja na zadnji strani naslovnice.

Pri nadalnjih kontrolah in nastavljanjih vzemite to nastavljeno vrednost kot osnovo.

RO

Centrala **Caldariello Condens 25 KIS** este în conformitate cu cerințele esențiale ale următoarelor Directive:

- Directiva de Gaz 2009/142/CE
- Directiva de Randament 92/42/CEE
- Directiva de Compatibilitate Electromagnetică 2004/108/CE
- Directiva de Joasă Tensiune 2006/95/CE

astfel, poartă marca CE



0694  
0694CL6033

#### RANGE RATED

Centrala poate fi adaptata cererilor de caldura ale instalatiei; este posibil, de altfel, sa setati puterea maxima de pe turul centralei pentru functio-narea in modul de incalzire.

Pentru operatiunile de reglare, faceti referire la capitolul "Reglaje".

Odata ce ati setat puterea necesara (maxim incalzire), indicati valoarea pe coperta de la sfarsitul manualului, pentru o consultare ulterioara.

DE

Der Kessel **Caldariello Condens 25 KIS** entspricht den wesentlichen Anforderungen der folgenden Richtlinien:

- Gas-Richtlinie 2009/142/EG
- Wirkungsgradrichtlinie 92/42/EWG
- Richtlinie über die elektromagnetische Verträglichkeit 2004/108/EG
- Niederspannungsrichtlinie 2006/95/EG

und besitzt daher die CE-Kennung



0694  
0694CL6033

#### **GEWICHTET**

Dieser Kessel kann an den Wärmebedarf der Anlage angepasst werden, d. h. es ist möglich, den maximalen Durchfluss für den Heizbetrieb des Kessels einzustellen. Für die Einstellung wird auf das Kapitel "Einstellungen" verwiesen. Nach dem Einstellen der gewünschten Leistung (maximale Heizleistung), den Wert in die Tabelle auf der Rückseite des Umschlags eintragen. Für spätere Kontrollen und Einstellungen gilt der eingestellte Wert als Bezug.

GRECO

EN

Installer's-user's manual .....	5
Boiler operating elements .....	116
Hydraulic circuit .....	118
Electric diagrams .....	120
Circulator residual head .....	125

ES

Manual para el instalador-usuario .....	17
Elementos funcionales de la caldera .....	116
Circuito hidráulico .....	118
Esquema eléctrico .....	120
Altura de carga residual del circulador .....	125

PT

Manual do instalador-usuário .....	29
Elementos funcionais da caldeira .....	116
Círculo Hidráulico .....	118
Diagrama Eléctrico .....	120
Altura total de elevação residual da bomba circuladora .....	125

HU

Telepítői kézikönyv-felhasználói kézikönyv .....	41
A kazán funkcionális alkatrészei .....	116
Vízkeresztelés .....	118
Villamos kapcsolási rajz .....	120
A keringető szivattyú maradék emelőnyomása .....	125

RO

Manual instalator-utilizator .....	53
Elementele functionale ale centralei .....	116
Circuit hidraulic .....	118
Scheme electrica .....	120
Presiune reziduala circulator .....	125

DE

Das Handbuch für Installateur - Benutzer.....	65
Die Arbeitselement von dem Kessel .....	116
Der Wasserkreis .....	118
Elektrische Schema .....	120
Verfügbarer Pumpekraftaufwand .....	125

SL

Navodila za vgraditelja-uporabu .....	77
Sestavni deli kotla .....	116
Hidravlična napeljava .....	118
Električna shema .....	120
Presežni tlak črpalke .....	125

HR

Priručnik za instalatera-korisnika .....	89
Funkcionalni dijelovi kotla .....	116
Vodeni krug .....	118
Električna shema .....	120
Raspoloživa dobavna visina cirkulacijske crpke .....	125

SRB

Priručnik za instalatera-korisnika .....	101
Funkcionalni delovi kotla .....	116
Vodeni krug .....	118
Električna šema .....	120
Karakteristike cirkulacione pumpe .....	125

## ENGLISH

## INSTALLATION MANUAL

## 1 - WARNINGS AND SAFETY



The boilers produced in our plants are built with great attention to detail and every component is checked in order to protect users and installers from injury. After working on the product, qualified personnel must check the electrical wiring, in particular the stripped part of conductors, which must not stick out from the terminal board, avoiding possible contact with live parts of said conductor.



This instruction manual, together with the user manual, are integral parts of the product: make sure it remains with the appliance, even if it is transferred to another owner or user, or moved to another heating system. In case of loss or damage, please contact your local Technical Assistance Service for a new copy.



Boiler installation and any other assistance and maintenance operations must be carried out by qualified personnel according to the provisions of the legislation in force.



The installer must instruct the user about the operation of the appliance and about essential safety regulations.



This boiler must only be used for the application it was designed for. The manufacturer declines all contractual and non-contractual liability for injury to persons or animals or damage to property deriving from errors made during installation, adjustment and maintenance and from improper use.



After removing the packaging, make sure the contents are in good condition and complete. Otherwise, contact the dealer from whom you purchased the appliance.



The safety valve outlet must be connected to a suitable collection and venting system. The manufacturer declines all liability for any damage caused due to any operation carried out on the safety valve.



Dispose of all the packaging materials in the suitable containers at the corresponding collection centres.



Dispose of waste by being careful not to harm human health and without employing procedures or methods which may damage the environment.



During installation, inform the user to:

- in the event of water leaks, the water supply must be shut off and the Technical Assistance Service must be contacted immediately.
- it is necessary to periodically check that the operating pressure of the hydraulic system is above 1 bar. If necessary, reset the pressure as indicated in the paragraph entitled "Filling the system"
- if the boiler is not used for a long time, the following operations are recommended:
- turn the main switch of the appliance and the main switch of the system to the "off" position
- close the fuel and water taps of the heating system
- drain the heating system to prevent freezing.

For safety, always remember that:



the boiler should not be used by children or unassisted disabled people



it is dangerous to activate electrical devices or appliances (such as switches, home appliances, etc.) if you smell gas or fumes. In the event of gas leaks, ventilate the room opening doors and windows; close the main gas tap; contact the Technical Assistance Service or professionally qualified personnel immediately



do not touch the boiler while barefoot, or if parts of your body are wet or damp



before any cleaning operations, disconnect the boiler from the mains power supply by turning the two-position system switch and the main control panel switch to the "OFF" position



do not modify safety and adjustment devices without the manufacturer's permission and relative instructions



do not pull, disconnect or twist the electric cables coming out of the boiler, even when it is disconnected from the mains power supply  
avoid covering or reducing the size of the ventilation openings in the installation room

In some parts of the manual, some symbols are used:



**WARNING** = for actions requiring special care and adequate preparation



**FORBIDDEN** = for actions that MUST NOT be performed



do not leave inflammable containers and substances in the installation room



keep packaging materials out of the reach of children



it is forbidden to obstruct the condensate drainage point

## 2 - DESCRIPTION

**Caldariello Condens KIS** is a Type C wall-mounted condensing boiler designed for heating and production of domestic hot water: according to the flue gas discharge device, the boiler is classified in categories B23P, B53P, C13, C23, C33, C43, C53, C63, C83, C93, C13x, C33x, C43x, C53x, C63x, C83x, C93x.

In configuration B23P and B53P (when installed indoors), the appliance cannot be installed in bedrooms, bathrooms, showers or where there are open fireplaces without a proper air flow. The room where the boiler is installed must have proper ventilation.

In configuration C, the appliance can be installed in any type of room and there are no limitations due to ventilation conditions or room volume.

## 3 - INSTALLATION

## 3.1 - Installation regulations

Installation must be carried out by qualified personnel, in accordance with local regulations.

## POSITION

The boiler has protection that guarantees correct operation with a temperature range from 0°C to 60°C.

To take advantage of protective devices, the appliance must be able to start up, since any lockout condition (for example, absence of gas or electrical supply, or safety operation) deactivates the protective devices. If the machine is left powered down for long periods in areas where temperatures may fall below 0°C, and you do not want to drain the heating system, you are advised to add a good quality antifreeze liquid to the primary circuit to protect it from freezing.

Carefully follow the manufacturer's instructions with regards not only the percentage of antifreeze liquid to be used for the minimum temperature at which you want to keep the machine circuit, but also the duration and disposal of the liquid itself. For the domestic hot water part, we recommend you drain the circuit.

The boiler component materials are resistant to ethylene glycol based antifreeze liquids.

## MINIMUM DISTANCES

In order to have access to the boiler to perform regular maintenance operations, respect the minimum clearances foreseen for installation (fig. 9). For correct appliance positioning:

- do not place it on a cooker or other cooking device
- do not leave inflammable products in the room where the boiler is installed
- heat sensitive walls (for example, wooden walls) must be protected with proper insulation.

## IMPORTANT

Before installation, wash all system piping carefully in order to remove any residues that may impair the operation of the appliance.

Connect the drain manifold to a suitable drainage system (for details, refer to chapter 3.5). The domestic hot water circuit does not need a safety valve, but make sure that the pressure of waterworks does not exceed 6 bar. In case of doubts, install a pressure reducer. Prior to ignition, make sure that the boiler is designed to operate with the gas available; this can be checked by the message on the packaging and the adhesive label indicating the gas type. It is very important to highlight that in some cases the smoke pipes are under pressure and therefore, the connections of several elements must be airtight.

## 3.2 Cleaning the system and characteristics of the heating circuit water

In the case of a new installation or replacement of the boiler, it is necessary to clean the heating system.

To ensure the device works well, top up the additives and/or chemical treatments (e.g. antifreeze liquids, filming agents, etc.) and check the parameters in the table are within the values indicated.

Parameters	Unit of measurement	Hot water circuit	Filling water
pH value		7–8	-
Hardness	°F	-	15–20
Appearance		-	clear

### 3.3 Securing the boiler to the wall and hydraulic connections

To secure the boiler to the wall, use the crossbar (fig. 10) provided in the box. The position and size of the hydraulic connections are indicated below:

A	heating delivery	3/4"
B	DHW outlet	1/2"
C	gas connection	3/4"
D	heating return line	3/4"
E	DHW inlet	1/2"

### 3.4 Installation of the external sensor (fig. 11)

The correct operation of the external sensor is fundamental for the good operation of the climate control.

#### INSTALLING AND CONNECTING THE EXTERNAL SENSOR

The sensor must be installed on an external wall of the building to be heated, observing the following indications:

it must be mounted on the side of the building most often exposed to winds (the NORTH or NORTHWEST facing wall), avoiding direct sunlight; it must be mounted about two thirds of the way up the wall;

it must not be mounted near doors, windows or air outlet points, and must be kept away from smoke pipes or other heat sources.

The electrical wiring to the external sensor is made with a bipolar cable with a section from 0.5 to 1 mm<sup>2</sup> (not supplied), with a maximum length of 30 metres. It is not necessary to respect the polarity of the cable when connecting it to the external sensor. Avoid making any joints on this cable however; if joints are absolutely necessary, they must be watertight and well protected. Any ducting of the connection cable must be separated from live cables (230V AC).

#### FIXING THE EXTERNAL SENSOR TO THE WALL

The sensor must be fixed on a smooth part of the wall; in the case of exposed brickwork or an uneven wall, look for the smoothest possible area. Loosen the plastic upper protective cover by turning it anticlockwise.

After deciding on the best fixing area of the wall, drill the holes for the 5x25 wall plug.

Insert the plug in the hole. Remove the board from its seat.

Fix the box to the wall, using the screw supplied.

Attach the bracket, then tighten the screw.

Loosen the nut of the cable grommet, then insert the sensor connection cable and connect it to the electric clamp.

To make the electrical connection between the external sensor and the boiler, refer to the "Electrical wiring" chapter.

 Remember to close the cable grommet properly, to prevent any humidity in the air getting in through the opening.

Put the board back in its seat.

Close the plastic upper protective cover by turning it clockwise. Tighten the cable grommet securely.

### 3.5 Condensate collection

The system must be set up so as to avoid any freezing of the condensate produced by the boiler (e.g. by insulating it). **You are advised to install a special drainage collection basin** in polypropylene (widely available on the market) on the lower part of the boiler (hole Ø 42), as shown in Fig.12. Position the flexible condensate drainage hose supplied with the boiler, connecting it to the manifold (or another connection device which allows inspection) avoiding creating any bends where the condensate could collect and possibly freeze.

The manufacturer will not be liable for any damage resulting from the failure to channel the condensate, or from its freezing.

The drainage connection line must be perfectly sealed, and well protected from the risk of freezing.

Before the initial start-up of the appliance, check the condensate will be properly drained off.

### 3.6 Gas connection

Before connecting the appliance to the gas supply, check that:

- national and local installation regulations are complied with
- the gas type is the one suitable for the appliance
- the piping is clean.

The gas pipe must be installed outdoors. If the pipe goes through the wall, it must go through the central opening, in the lower part of the template. It is advisable to install a filter of suitable dimensions on the gas line if the distribution network contains solid particles.

Once the appliance has been installed, check the connections are sealed according to current installation regulations.

### 3.7 Electrical wiring

To access the electrical wiring, proceed as follows:

To access the terminal board:

- turn off the main switch on the system
- undo the fixing screws (D) on the housing (fig. 13)
- move the base of the housing forwards and then upwards to unhook it from the chassis
- undo the fixing screws (E) from the instrument panel (fig. 14)
- lift then turn the instrument panel towards you (fig. 15)
- detach the cover on the board casing (fig. 16)
- insert the cable of any room thermostat to be fitted.

The room thermostat must be connected as indicated in the wiring diagram.

#### Low voltage room thermostat input (24V DC).

It must be connected to the mains power supply via a double-pole isolating switch with minimum contact gap of 3.5 mm (EN 60335/1 - category 3).

The appliance operates with an alternating current of 230 Volt/50 Hz and an electrical output of 110 W (and complies with the standard EN 60335-1). It is obligatory to ensure the earth connection is safe, in compliance with the current directives.

 The installer is responsible for ensuring the appliance is correctly earthed; the manufacturer will not be liable for any damage resulting from an incorrect or missing earth connection

 It is also advisable to respect the live-neutral connection (L-N).

 The earth conductor must be a couple of cm longer than the others.

The boiler can operate with a phase-neutral or phase-phase supply. For power supplies that are not earthed, it is necessary to use an isolating transformer with earthed secondary.

Do not use gas and/or water pipes to earth electrical appliances.

Use the power cable supplied to connect the boiler to the mains power supply.

If the power cable needs to be replaced, use a cable of the HAR H05V2V2-F type, 3 x 0.75 mm<sup>2</sup>, with a maximum external diameter of 7 mm.

### 3.8 Filling the heating system

Once the hydraulic connections have been carried out, fill the heating system.

This operation must be carried out with cold system, according to the following instructions (fig. 17):

- open the automatic air vent by turning the plug on the lower valve (A) and upper valve (D) two or three turns, to bleed the air continuously, leave valve plugs A-D open
- ensure that the cold water inlet tap is open
- open the filling tap (B) until the pressure indicated by the water gauge is between 1 and 1.5 bar
- close the filling tap.

**Note:** the boiler is bled automatically via the two automatic bleed valves A and D, positioned on the circulator and inside the air distribution box respectively.

If you encounter problems bleeding the boiler, proceed as described in paragraph 3.11.

### 3.9 Draining the heating system

Before starting to drain the system, switch off the electrical supply by turning off the main switch of the system.

Close the shut-off devices on the heating system

Manually loosen the system drain valve (C)

### 3.10 Draining the domestic hot water system

When there is risk of frost, the domestic hot water system must be emptied in the following way:

- close the main tap of the water mains
- open all the hot and cold water taps
- drain the lowest points.

### 3.11 Bleeding the air from the heating circuit and boiler

During the initial installation phase, or in the event of extraordinary maintenance, you are advised to perform the following sequence of operations:

1. Use a CH11 spanner to open the manual air vent valve located above the air distribution box (fig.18). Connect the tube (supplied with the boiler) to the valve, so the water can be drained into an external container.
2. Open the system filling tap located on the hydraulic unit and wait until water begins to drain out of the valve.
3. Switch on the electricity supply to the boiler, leaving the gas tap turned off.
4. Activate a heat request via the room thermostat or the remote control panel, so that the 3-way valve goes into heating mode.
5. Activate a DHW request as follows:  
**instantaneous boilers**: open a tap, for 30 seconds every minute so that the three-way valve switches from heating to domestic hot water and vice versa about ten times. In this situation, the boiler will go into alarm mode due to the absence of gas, so it must be reset every time this happens.  
**heat-only boilers** connected to an external storage tank: activate the thermostat on the storage tank;
6. Carry on with the sequence until only water leaks out of the manual air vent valve, and the air flow has stopped. Close the manual air vent valve.
7. Check the system pressure level is correct (the ideal level is 1 bar).
8. Turn off the system filling tap.
9. Turn on the gas tap and ignite the boiler.

### "FORCED OPEN" INSTALLATION (TYPE B23P/B53P)

#### Flue gas discharge pipe ø 80 mm (fig. 20)

The flue gas discharge pipe can be directed to the most suitable direction according to installation requirements. For installation, follow the instructions supplied with the kit.

In this configuration, the boiler is connected to the flue gas discharge pipe (ø 80 mm) through an adaptor (ø 60-80 mm).

- ⚠ In this case, the combustion air is picked up from the boiler installation room (which must be a suitable technical room with proper ventilation).
- ⚠ Uninsulated flue discharge outlet pipes are potential sources of danger.
- ⚠ Arrange the flue gas discharge pipe so it slopes by 1% towards the boiler.
- ⚠ The boiler automatically adapts the purging to the type of installation and the length of the pipe.

maximum length of the flue gas discharge pipe ø 80 mm	pressure drop 45° bend	pressure drop 90° bend
70 m	0.5m	0.8m

\*"Straight length" means without bends, drainage terminals or joints.

### "SEALED" INSTALLATION (TYPE C)

The boiler must be connected to concentric or twin flue gas discharge pipes and air suction pipes, both leading outdoors. The boiler must not be operated without them.

#### Concentric pipes (ø 60-100 mm) (fig.21)

The concentric pipes can be placed in the most suitable direction according to installation requirements, complying with the maximum lengths indicated in the table.

- ⚠ Arrange the flue gas discharge pipe so it slopes by 1% towards the boiler.
- ⚠ Non-insulated outlet pipes are potential sources of danger.
- ⚠ The boiler automatically adapts the purging to the type of installation and the length of the pipe.
- ⚠ Do not obstruct or choke the combustion air suction pipe in any way.

For installation, follow the instructions supplied with the kit.

#### Horizontal

straight length * concentric pipe ø 60-100 mm	pressure drop 45° bend	pressure drop 90° bend
5.85 m	0.5 m	0.85 m

#### Vertical

straight length * concentric pipe ø 60-100 mm	pressure drop 45° bend	pressure drop 90° bend
6.85 m	0.5 m	0.85 m

\*"Straight length" means without bends, drainage terminals or joints.

If the boiler must be installed with drainage below, use the special elbow (kit available on request – see Parts Catalogue).

In this type of installation, the inner pipe of the elbow must be cut at the point shown in fig. 22 to allow the elbow itself to be inserted more easily into the flue gas discharge on the boiler.

#### Concentric pipes (ø 80-125)

For this configuration, the special adaptor kit must be fitted. The concentric pipes can face in the direction most suitable for installation requirements. For installation, follow the instructions supplied with the specific condensing boilers kits.

straight length concentric pipe ø 80-125 mm	pressure drop 45° bend	pressure drop 90° bend
15.3 m	1.0 m	1.5 m

\*"Straight length" means without bends, drainage terminals or joints.

**Twin pipes (ø 80 mm) (fig. 23)**

The twin pipes can face in the direction most suited to the installation requirements.

For installation, follow the instructions supplied with the specific accessory kit for condensing boilers.



Arrange the flue gas discharge pipe so it slopes by 1% towards the boiler.



The boiler automatically adapts the purging to the type of installation and the length of the pipes. Do not obstruct or choke the pipes in any way.



Refer to the graphs to find the maximum lengths of the single pipe.



The use of longer pipes reduces the boiler output.

maximum straight length twin pipes ø 80 mm	pressure drop	
	45° bend	90° bend
45+45 m	0.5 m	0.8 m

\*\*"Straight length" means without bends, drainage terminals or joints.



## 4 - SWITCHING ON AND OPERATION

### 4.1 Switching on the appliance

Every time the appliance is powered up, a series of data is shown on the display including the flue gas sensor meter reading (-C- XX) (see paragraph 4.3 - fault A09); the automatic purge cycle then starts, lasting around 2 minutes. During this phase, the three LEDs light up alternately and the symbol “ 

To interrupt the automatic purge cycle proceed as follows:

access the electronic board by removing the housing, turning the instrument panel towards you and opening the board casing (fig. 13-14-15)

Then:

- press the CO button (fig. 26).



To start up the boiler it is necessary to carry out the following operations:

- power the boiler
- open the gas tap to allow the flow of fuel
- set the room thermostat to the required temperature (~20°C)
- turn the mode selector to the desired position:

**Winter mode:** by turning the mode selector (fig. 27) in the area divided into segments, the boiler provides domestic hot water and heating. If there is a heat request, the boiler switches on and the boiler status indicator LED lights up with a fixed green light. The digital monitor indicates the heating water temperature (fig. 29).

If there is a domestic hot water request, the boiler switches on and the boiler status indicator LED lights up with a fixed green light.

The display indicates the domestic hot water temperature (fig. 30).

#### Adjustment of the heating water temperature

To adjust the heating water temperature, turn the knob with symbol 

**Summer mode:** turning the mode selector to the summer mode symbol 

If there is a domestic hot water request, the boiler switches on and the boiler status indicator LED lights up with a fixed green light. The digital monitor indicates the domestic hot water temperature (fig. 30).

**Pre-heating (faster hot water):** turning the domestic hot water temperature adjustment knob to the 

This function keeps the water in the domestic hot water exchanger hot, to reduce standby times when a request is made.

When the pre-heating function is enabled, the yellow LED next to the 

This function cannot be activated when the boiler is OFF: mode selector (fig. 32) to 

#### Adjustment of the domestic hot water temperature

To adjust the domestic hot water temperature (bathrooms, shower, kitchen, etc.), turn the knob with the 

The boiler is standby status until, after a heat request, the burner switches on and the indicator LED turns fixed green to indicate flame presence. The boiler continues to operate until the temperatures set on the boiler are reached, or the heat request is met; after which it goes back on standby. If the red LED indicator near the 

The digital monitor indicates the fault code detected.

#### Automatic Temperature Control System function (C.T.R.) fig. 35

Setting the heating water temperature selector in the zone marked by symbols in bold type, activates the automatic temperature control system (frequency 0.1 sec. on; then 0.1 sec. off; for 0.5 seconds): according to the temperature set on the room thermostat and the time taken to reach it, the boiler varies automatically the heating water temperature reducing the operating time, allowing greater ease of operation and energy saving. On the control panel, the green LED flashes ON for 0.5 seconds, OFF for 3.5 seconds.

#### Reset function

To restore operation, set the mode selector to 

At this point the boiler will automatically start and the red lamp switches on in green.

N.B. If the attempt to reset the appliance does not activate operation, contact the Technical Assistance Service.

### 4.2 Switching off

#### Temporary switch-off

In case of absence for short periods of time, set the mode selector (fig. 32) to 

In this way (leaving the electricity and fuel supplies enabled), the boiler is protected by the following systems:

Anti-frost device: when the temperature of the water in the boiler falls below 5°C, the circulator and, if necessary, the burner are activated at minimum output levels to bring the water temperature back to the values for safety (35°C). During the anti-frost cycle, the symbol 

Circulator anti-blocking function: an operation cycle is activated every 24 hours.

#### Switching off for long periods

In case of absence for long periods of time, set the mode selector (fig. 32) to 

Close the fuel and water taps of the heating and domestic hot water system.

In this case, anti-frost device is deactivated: drain the systems, in case of risk of frost.

### 4.3 Light signals and faults

The control panel has three LEDs that indicate the boiler operating status:

#### Green LED

##### Flashing

Flashing (0.5 seconds on, then 3.5 seconds off) = boiler in standby, there is no flame.

Flashing (0.5 seconds on, then 0.5 seconds off) = temporary shutdown of the appliance due to the following automatic-reset faults:

- water pressure switch (standby time 10 minutes approximately)
- transitory waiting for ignition.

In this phase, the boiler waits for restoration of working conditions. If after the standby time, the boiler does not restore regular operation, the shutdown will be permanent and the signal light will be red.

Fast flashing (0.1 second on; then 0.1 second off; for 0.5 seconds) = Automatic Temperature Control System input/output function (fig. 35).

Setting the heating water temperature selector in the zone marked by symbols in bold type (temperature value from 55 to 65°C) activates the Automatic Temperature Control System: the boiler varies the output temperature according to the closing signal of the room thermostat.

When the temperature set with the heating water temperature selector is reached, a 20-minute countdown begins. If during this period the room thermostat still requests heat, the value of the set temperature automatically increases by 5°C.

When the new value is reached, other 20-minute countdown begins. If during this period the room thermostat still requests heat, the value of the set temperature automatically increases by 5°C. This new temperature value is the result of the temperature set manually with the heating water temperature selector and the increase of +10°C of the Automatic Temperature Control System (C.T.R.) function.

After the second cycle, the temperature value is not increased any further (set temperature +10°C) and cycle described above is repeated until the room thermostat request is met.

#### Fixed green

there is flame, the boiler works regularly.

#### Red LED

If the red LED lights up, this indicates the presence of a fault; the monitor shows a code interpreted as follows:

- A 01** flame lockout (fixed red LED + flame lockout icon 9

**To restore operation (deactivate alarms):****Faults A 01-02-03**

Position the function selector to  (OFF), wait 5-6 seconds then set it to the required position.

If the reset attempts do not reactivate the boiler, contact the Technical Assistance Centre.

**Fault A 04**

In addition to the fault code, the digital display shows the symbol .

Check the pressure value indicated by the water gauge:

if it is less than 0.3 bar, position the function selector to  (OFF) and adjust the filling tap (B-fig. 17) until the pressure reaches a value between 1 and 1.5 bar.

Then position the mode selector to the desired position.

The boiler will perform one purge cycle lasting approximately 2 minutes.

If pressure drops are frequent, request the intervention of the Technical Assistance Service.

**Fault A 06**

The boiler operates normally but cannot reliably maintain a constant domestic hot water temperature, which remains set at around 50°C. Contact the Technical Assistance Centre.

**Fault A 07**

Contact the Technical Assistance Centre.

**Fault A 08**

Contact the Technical Assistance Centre.

**Fault A 09 with fixed red LED lit**

Position the function selector to  (OFF), wait 5-6 seconds then set it to the required position.

If the reset attempts do not reactivate the boiler, request the intervention of the Technical Assistance Service.

**Fault A 09 with flashing red and green LEDs**

The boiler is equipped with an auto-diagnostic system which, based on the total number of hours in certain operating conditions, can signal the need to clean the primary exchanger (alarm code 09 with flashing red and green LEDs and flue gas meter >2,500).

Once the cleaning operation has been completed, using the special kit supplied as an accessory, the total hour meter will need to be reset to zero as follows:

- switch off the power supply
- remove the housing
- loosen the fixing screw then turn the instrument panel
- loosen the fixing screws on the cover (F) to access the terminal board (fig. 16)
- while the boiler is powered up, press and hold the CO button (fig. 26) for at least 4 seconds, to check the meter has been reset, power down then power up the boiler; the meter reading is shown on the monitor after the “-C-” sign.

**Live electrical parts (230 V AC).**

Note: the meter resetting procedure should be carried out after each in-depth cleaning of the primary exchanger or if this latter is replaced. To check the status of the total hour meter, multiply the reading by 100 (e.g. reading of 18 = 1800 total hours; reading of 1 = 100 total hours).

The boiler continues to operate normally even when the alarm is activated.

**Fault A77**

This is an automatic-reset fault, if the boiler does not restart, contact the Technical Assistance Centre.

**Fixed yellow LED**

Pre-heating function activated

**Flashing yellow LED**

Combustion analysis in progress.

**4.4 Boiler configuration**

There is a series of jumpers (JPX) available on the electronic board which enable the boiler to be configured.

To access the board, proceed as follows:

- turn off the main switch on the system
- loosen the fixing screws on the housing, move the base of the housing forwards and then upwards to unhook it from the chassis
- undo the fixing screws (E) from the instrument panel (fig. 14)
- loosen the screws (F - fig. 16) to remove the cover of the terminal board (230V)

**JUMPER JP7 - fig. 37:**

preselection of the most suitable heating temperature adjustment field according to the installation type.

**Jumper not inserted - standard installation**

Standard installation 40-80°C

**Jumper inserted - floor installation**

Floor installation 20-45°C.

In the manufacturing phase, the boiler is configured for standard installations.

**JP1** Calibration (Range Rated)

**JP2** Reset heating timer

**JP3** Calibration (see paragraph on “Adjustments”)

**JP4** Absolute domestic hot water thermostat selector

**JP5** Do not use

**JP6** Enable night-time compensation function and continuous pump (only with external sensor connected)

**JP7** Enable management of low temperature/standard installations (see above)

**JP8** Do not use

**4.5 Setting the thermoregulation (graphs 1-2-3)**

The thermoregulation only operates with the external sensor connected; once installed, connect the external sensor (accessory available on request) to the special terminals provided on the boiler terminal board (fig. 5).

This enables the THERMOREGULATION function.

Selecting the compensation curve

The compensation curve for heating maintains a theoretical temperature of 20°C indoors, when the external temperature is between +20°C and -20°C. The choice of the curve depends on the minimum external temperature envisaged (and therefore on the geographical location), and on the delivery temperature envisaged (and therefore on the type of system). It is carefully calculated by the installer on the basis of the following formula:

$$KT = \frac{\text{envisioned delivery T.} - \text{Tshift}}{20 - \text{min. envisioned external T.}}$$

$$\text{Tshift} = \begin{cases} 30^\circ\text{C} & \text{standard installations} \\ 25^\circ\text{C} & \text{floor installations} \end{cases}$$

If the calculation produces an intermediate value between two curves, you are advised to choose the compensation curve nearest the value obtained. Example: if the value obtained from the calculation is 1.3, this is between curve 1 and curve 1.5. Choose the nearest curve, i.e. 1.5.

Select the KT using trimmer **P3** on the board (see multiwire wiring diagram).

To access **P3**:

- remove the housing,
- loosen the fixing screw on the instrument panel
- turn the instrument panel towards you
- loosen the fixing screws on the terminal board cover
- unhook the board casing

**Live electrical parts (230 V AC).**

The KT values which can be set are as follows:

standard installation: 1.0-1.5-2.0-2.5-3.0

floor installation 0.2-0.4-0.6-0.8

and these are displayed for approximately 3 seconds after rotation of the trimmer P3.

**TYPE OF HEAT REQUEST****Boiler connected to room thermostat (JUMPER 6 not inserted)**

The heat request is made by the closure of the room thermostat contact, while the opening of the contact produces a switch-off. The delivery temperature is automatically calculated by the boiler, although the user may modify the boiler settings. Using the interface to modify the HEATING, you will not have the HEATING SET-POINT value available, but a value that you can set as preferred between +5 and -5°C. The modification of this value will not directly modify the delivery temperature, but will automatically affect the calculation that determines the value of that temperature, altering the reference temperature in the system (0 = 20°C).

**Boiler connected to a programmable timer (JUMPER JP6 inserted)**

With the contact closed, the heat request is made by the delivery sensor, on the basis of the external temperature, to obtain a nominal indoor temperature on DAY level (20°C). With the contact open, the boiler is not switched off, but the weather curve is reduced (parallel shift) to NIGHT level (16°C).

This activates the night-time function.

The delivery temperature is automatically calculated by the boiler, although the user may modify the boiler settings.

Using the interface to modify the HEATING, you will not have the HEATING SET-POINT value available, but a value that you can set as preferred between +5 and -5°C.

The modification of this value will not directly modify the delivery temperature, but will automatically affect the calculation that determines the value of that temperature, altering the reference temperature in the system (0 = 20°C for DAY level, and 16°C for NIGHT level).

## 4.6 Adjustments

The boiler has already been adjusted by the manufacturer during production. If the adjustments need to be made again, for example after extraordinary maintenance, replacement of the gas valve, or conversion from methane gas to LPG, observe the following procedures.

The adjustment of the maximum and minimum output, and of the maximum and minimum heating and of slow switch-on, must be made strictly in the sequence indicated, and only by qualified personnel only:

- disconnect the boiler from the power supply
- turn the heating water temperature selector to its maximum
- loosen the fixing screws (E) on the instrument panel (fig. 14)
- lift then turn the instrument panel towards you
- loosen the fixing screws on the cover (F) to access the terminal board (fig. 16)
- insert the jumpers JP1 and JP3 (fig. 39)
- power up the boiler

The three LEDs on the instrument panel flash simultaneously and the display shows "ADJ" for approximately 4 seconds

Next change the following parameters:

1 - Domestic hot water/absolute maximum

2 - Minimum

3 - Heating maximum

4 - Slow switch-on

as follows:

- turn the heating water temperature selector to set the required value
- press the CO button (fig. 26) and then skip to the calibration of the next parameter.



### Live electrical parts (230 V AC).

The following icons light up on the monitor:

1. during domestic hot water/absolute maximum calibration
2. during minimum calibration
3. during heating maximum calibration
4. during slow switch-on calibration

End the procedure by removing jumpers JP1 and JP3 to store these set values in the memory.

THE function can be ended at any time without storing the set values in the memory and retaining the original values as follows:

- remove jumpers JP1 and JP3 before all 4 parameters have been set
- set the function selector to (OFF/RESET)
- cut the power supply
- waiting for 15 minutes after it is connected.



Calibration can be carried out without switch on the boiler.



By turning the heating selection knob, the monitor automatically shows the number of rotations, expressed in hundreds (e.g. 25 = 2,500 rpm).

### GAS VALVE CALIBRATION

- Connect the boiler to the power supply
- Open the gas tap
- Set the function selector to (OFF/RESET) (monitor off)
- Loosen the screws (E), remove the housing, then lower the instrument panel towards you (fig. 14)

- Loosen the fixing screws on the cover (F) to access the terminal board (fig. 16)

- Press the CO button (fig. 26)

### ⚠ Live electrical parts (230 V AC).

- Wait for burner ignition.

The display shows "ACO" and the yellow LED flashes. The boiler operates at maximum heat output.

The "combustion analysis" function remains active for a limited time (15 min); if a delivery temperature of 90°C is reached, the burner is switched off. It will be switched back on when this temperature drops below 78°C.

- Insert the analyser probe in the ports provided in the air distribution box, after removing the screws from the cover (fig. 40)
- Press the "combustion analysis" button a second time to reach the number of rotations corresponding to the maximum domestic hot water output (table 1); the yellow LED continues to flash while the red LED is fixed
- Check the CO<sub>2</sub> value: (table 3) if the value does not match the value given in the table, use the gas valve maximum adjustment screw
- Press the "combustion analysis" button a third time to reach the number of rotations corresponding to the minimum output (table 2); the yellow LED continues to flash while the green LED is fixed
- Check the CO<sub>2</sub> value: (table 4) if the value does not match the value given in the table, use the gas valve minimum adjustment screw
- To exit the "combustion analysis" function, turn the control knob
- Remove the flue gas probe and refit the plug
- Close the instrument panel and refit the housing.

The "combustion analysis" function is automatically deactivated if the board triggers an alarm. In the event of a fault during the combustion analysis cycle, carry out the reset procedure.

**table 1**

MAXIMUM NUMBER OF FAN ROTATIONS	METHANE GAS (G20)	LIQUID GAS (G31)	
heating - DHW	49 - 61	49 - 61	rpm

**table 2**

MINIMUM NUMBER OF FAN ROTATIONS	METHANE GAS (G20)	LIQUID GAS (G31)	
	14	14	rpm

**table 3**

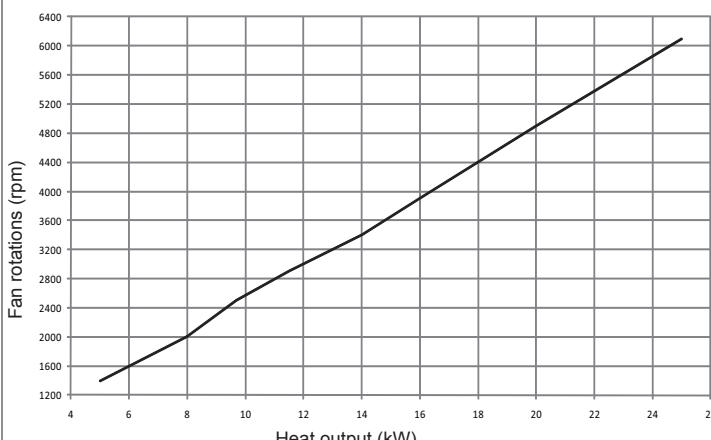
Max. CO <sub>2</sub>	METHANE GAS (G20)	LIQUID GAS (G31)	
	9.0	10.5	%

**table 4**

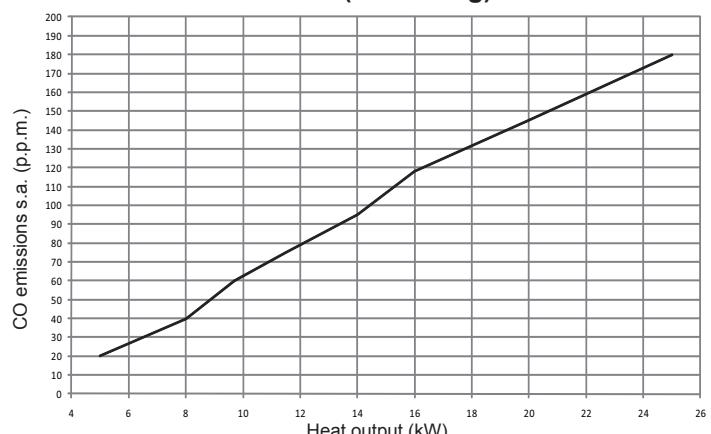
Min. CO <sub>2</sub>	METHANE GAS (G20)	LIQUID GAS (G31)	
	9.5	10.5	%

The boiler is supplied with the adjustments shown in the table. Depending on plant engineering requirements or regional flue gas emission limits it is, however, possible to modify this value, referring to the graphs below.

**HTG curve (Qnheating) - 25kW**



**COs.a. curve (Qnheating) - 25kW**



#### 4.7 Gas conversion (fig. 41-42)

Gas conversion from one family of gases to another can also be easily performed when the boiler is installed. This operation must be carried out by professionally qualified personnel. The boiler is designed to operate with methane gas (G20) according to the product label.

It is possible to convert the boiler to propane gas, using the special kit.

For disassembly, refer to the instructions below:

- switch off the power supply to the boiler and close the gas tap
- remove in sequence: housing and air distribution box cover
- remove the fixing screw from the instrument panel
- unhook and turn the instrument panel forwards
- remove the gas valve (A)
- remove the nozzle (B) inside the gas valve and replace it with the nozzle from the kit
- refit the gas valve
- remove the silencer from the mixer
- open the two half-shells by prising apart the corresponding hooks (C)
- replace the air diaphragm (D) in the silencer
- refit the air distribution box cover
- re-power the boiler and turn on the gas tap

Adjust the boiler as described in the chapter entitled "Adjustments" with reference to the information on LPG.

 **Conversion must be carried out by qualified personnel.**

 **Once the conversion is complete, affix the new identification label supplied in the kit.**

## 5 - MAINTENANCE

The appliance must be systematically controlled at regular intervals to make sure it works correctly and efficiently and conforms to legislative provisions in force.

The frequency of controls depends on the conditions of installation and usage, it being anyhow necessary to have a complete check carried out by authorized personnel from the Servicing Centre every year.

- Check and compare the boiler's performance with the relative specifications. Any cause of visible deterioration must be immediately identified and eliminated.
- Closely inspect the boiler for signs of damages or deterioration, particularly with the drainage and aspiration system and electrical apparatus.
- Check and adjust – where necessary – all the burner's parameters.
- Check and adjust – where necessary – the system's pressure.
- Analyze combustion. Compare results with the product's specification. Any loss in performance must be identified and corrected by finding and eliminating the cause.
- Make sure the main heat exchanger is clean and free of any residuals or obstruction.
- Check and clean – where necessary – the condensation tray to make sure it works properly.

**IMPORTANT:** always switch off the power to the appliance and close the gas by the gas cock on the boiler before carrying out any maintenance and cleaning jobs on the boiler.

Do not clean the appliance or any latter part with flammable substances (e.g. petrol, alcohol, etc.).

Do not clean panelling, enamelled and plastic parts with paint solvents. Panels must be cleaned with ordinary soap and water only.

The flame side of the burner is made of state-of-the-art material.

Being fragile:

- be particularly careful when handling, mounting or dismantling the burner and adjacent components (e.g. electrodes, insulation panelling etc.)
- avoid direct contact with any cleaning appliance (e.g. brushes, aspirators, blowers, etc.).

This component does not need any maintenance, please do not remove it from its housing, save where the O-ring may have to be replaced.

The manufacturer declines all responsibility in cases of damages due to failing to observe the above.

### 5.1 Checking the combustion parameters

To carry out the combustion analysis, proceed as follows:

- set the main switch of the installation to the "OFF" position
- loosen the fixing screws (D) on the housing (fig. 13)
- move the base of the housing forwards and then upwards to unhook it from the chassis
- loosen the fixing screws (E) on the instrument panel (fig. 14)
- lift then turn the instrument panel towards you
- loosen the fixing screws on the cover (F) to access the terminal board (fig. 16)
- Press the "CO" button (fig. 26)



#### Live electrical parts (230 V AC).

- Wait for burner ignition. The display shows "ACO", the yellow LED flashes and the boiler operates at maximum heat output.
- insert the analyser probe in the ports provided in the air distribution box, after removing the screws from the cover (fig. 40)
- check that the CO2 values match those given in the table, if the value shown is different, change it as indicated in the chapter entitled "Gas valve calibration".
- perform the combustion check.

Then:

- remove the analyser probe and close the sockets for combustion analysis with the special screw
- close the instrument panel and refit the housing

 **The flue gas analysis probe must be fully inserted as far as possible.**

#### IMPORTANT

Even during the combustion analysis phase, the function that switches the boiler off when the water temperature reaches the maximum limit (about 90°C) remains enabled.

### 5.2 Serial number

	Domestic hot water function
	Heating function
Qn	Nominal heat delivery
Pn	Nominal heat output
IP	Degree of Protection
Pmw	Maximum DHW pressure
Pms	Maximum heating pressure
T	Temperature
η	Performance
D	Specific flow rate
NOx	NOx class

RIELLO		Gas type:	Gas category:	CE
Condensing Boiler				
N. 0000000000		D: l/min	80-60 C 80-60 C 50-30 C	
230 V ~ 50 Hz W		Qn =	Qm	
 Pmw = bar T= 60 °C		Pn =	Pm	Pn
 Pms = bar T= 90 °C				
****		European Directive 92/42/ EEC: η =		

# USER GUIDE

## 1a GENERAL WARNINGS AND SAFETY

The instruction manual is an integral part of the product and it must therefore be kept carefully and must accompany the appliance; if the manual is lost or damaged, another copy must be requested from the Technical Assistance Service.

- !** Boiler installation and any other assistance and maintenance operations must be carried out by qualified personnel according to the provisions of local legislation.
- !** For installation, it is advisable to contact specialised personnel.
- !** The boiler must only be used for the application foreseen by the manufacturer. The manufacturer shall not be liable for any damage to persons, animals or property due to errors in installation, calibration, maintenance or due to improper use.
- !** The safety and automatic adjustment devices must not be modified, during the system life cycle, by the manufacturer or supplier.
- !** This appliance produces hot water, therefore it must be connected to a heating system and/or a domestic hot water mains, compatible with its performance and output.
- !** In case of water leakage, close the water supply and contact the Technical Assistance Service immediately.
- !** In case of absence for long periods time, close the gas supply and switch off the electrical supply main switch. If there is a risk of frost, drain the boiler.
- !** From time to time check that the operating pressure of the hydraulic system does not go below 1 bar.
- !** In case of failure and/or malfunctioning, deactivate the appliance, and do not try to repair or operate directly on it.
- !** Appliance maintenance must be carried out at least once a year: scheduling it with the Technical Assistance Service will avoid wasting time and money.

Boiler use requires strict observation of some basic safety rules:

- Do not use the appliance in any manner other than its intended purpose.
- It is dangerous to touch the appliance with wet or damp body parts and/or when barefoot.
- Under no circumstances cover the intake grids, dissipation grids and ventilation vents in the installation room with cloths, paper or any other material.
- Do not use electrical switches, telephone or any other object that causes sparks if there is a smell of gas. Ventilate the room by opening doors and windows and close the central gas tap.
- Do not place anything in the boiler.
- Do not perform any cleaning operation if the appliance is not disconnected from the mains power supply.
- Do not cover or reduce ventilation opening of the room where the generator is installed.
- Do not leave containers and inflammable products in the installation room.
- Do not attempt to repair the appliance in case of failure and/or malfunctioning.
- It is dangerous to pull or twist the electric cables.
- Children or unskilled persons must not use the appliance.
- Do not carry out operations on sealed elements.

For better use, remember that:

- periodic external cleaning with soapy water not only improves its appearance but also preserves panelling from corrosion, extending its life cycle;
- if the wall-mounted boiler is enclosed in a hanging unit, leave at least 5 cm for ventilation and maintenance;
- installation of a room thermostat will greatly improve comfort, a more rational use of the heat and energy saving; the boiler can also be connected to a programmable timer in order to control the switching on and off of the appliance during the day or week.

## 2a SWITCHING ON THE APPLIANCE

Every time the appliance is powered up, a series of data is shown on the display including the flue gas sensor meter reading (-C- XX) (see paragraph 4.3 - fault A09); the automatic purge cycle then starts, lasting around 2 minutes. During this phase, the three LEDs light up alternately and the symbol "□□" is shown on the monitor (fig. 25).

To start up the boiler it is necessary to carry out the following operations:

- power the boiler
- open the gas tap to allow the flow of fuel
- set the room thermostat to the required temperature (~20°C)
- turn the mode selector to the desired position:

**Winter mode:** by turning the mode selector (fig. 27) in the area divided into segments, the boiler provides domestic hot water and heating. If there is a heat request, the boiler switches on and the boiler status indicator LED lights up with a fixed green light. The digital monitor indicates the heating water temperature (fig. 29).

If there is a domestic hot water request, the boiler switches on and the boiler status indicator LED lights up with a fixed green light. The display indicates the domestic hot water temperature (fig. 30).

### Adjustment of the heating water temperature

To adjust the heating water temperature, turn the knob with symbol "||||" (fig. 27) clockwise to increase water temperature and anti-clockwise to lower it.

**Summer mode:** turning the mode selector to the summer mode symbol "✿" (fig. 28) activates the traditional **domestic hot water only** function.

If there is a domestic hot water request, the boiler switches on and the boiler status indicator LED lights up with a fixed green light. The digital monitor indicates the domestic hot water temperature (fig.30).

**Pre-heating (faster hot water):** turning the domestic hot water temperature adjustment knob to the "⚡" symbol (fig. 31) activates the pre-heating function. Bring the domestic hot water temperature adjustment knob back to the required position.

This function keeps the water in the domestic hot water exchanger hot, to reduce standby times when a request is made.

When the pre-heating function is enabled, the yellow LED next to the "⚡" symbol is lit. The monitor indicates the delivery temperature of the heating water or the domestic hot water, according to the current request. During burner ignition following a pre-heating request, the monitor indicates the "P" symbol.

To deactivate the pre-heating function, rotate the domestic hot water temperature adjustment knob back to the "⚡" symbol. The yellow LED will switch off. Bring the domestic hot water temperature adjustment knob back to the required position.

This function cannot be activated when the boiler is OFF: mode selector (fig.32) to **OFF** (OFF).

### Adjustment of the domestic hot water temperature

To adjust the domestic hot water temperature (bathrooms, shower, kitchen, etc.), turn the knob with the "⚡" symbol clockwise to increase water temperature and anti-clockwise to lower it (min. value 37°C - max. value 60°C). On the control panel, the green LED flashes with ON for 0.5 seconds, OFF for 3.5 seconds.

The boiler is standby status until, after a heat request, the burner switches on and the indicator LED turns fixed green to indicate flame presence. The boiler continues to operate until the temperatures set on the boiler are reached, or the heat request is met; after which it goes back on standby. If the red LED indicator near the "⚠" symbol (fig. 34) on the control panel lights up, this means the boiler is in temporary shutdown status (see the chapter on Light signals and faults).

The digital monitor indicates the fault code detected.

### Automatic Temperature Control System function (C.T.R.) fig. 35

Setting the heating water temperature selector in the zone marked by symbols in **bold** type, activates the automatic temperature control system (frequency 0.1 sec. on; then 0.1 sec. off; for 0.5 seconds): according to the temperature set on the room thermostat and the time taken to reach it, the boiler varies automatically the heating water temperature reducing the operating time, allowing greater ease of operation and energy saving. On the control panel, the green LED flashes ON for 0.5 seconds, OFF for 3.5 seconds.

### Reset function

To restore operation, set the mode selector to **OFF** (fig. 32), wait 5-6 seconds then set the mode selector to the required position, checking that the red indicator light is OFF.

At this point the boiler will automatically start and the red lamp switches on in green.

N.B. If the attempt to reset the appliance does not activate operation, contact the Technical Assistance Service.

### 3a SWITCHING OFF

#### Temporary switch-off

In case of absence for short periods of time, set the mode selector (fig. 32) to  (OFF).  
In this way (leaving the electricity and fuel supplies enabled), the boiler is protected by the following systems:

Anti-frost device: when the temperature of the water in the boiler falls below 5°C, the circulator and, if necessary, the burner are activated at minimum output levels to bring the water temperature back to the values for safety (35°C). During the anti-frost cycle, the symbol  (fig. 36) appears on the digital monitor.

Circulator anti-blocking function: an operation cycle is activated every 24 hours.

#### Switching off for long periods

In case of absence for long periods of time, set the mode selector (fig. 32) to  (OFF).

Turn the main system switch OFF.

Close the fuel and water taps of the heating and domestic hot water system.

In this case, anti-frost device is deactivated: drain the systems, in case of risk of frost.

### 4a Light signals and faults

The control panel has three LEDs that indicate the boiler operating status:

#### Green LED

##### Flashing

Flashing (0.5 seconds on, then 3.5 seconds off) = boiler in standby, there is no flame.

Flashing (0.5 seconds on, then 0.5 seconds off) = temporary shutdown of the appliance due to the following automatic-reset faults:

- water pressure switch (standby time 10 minutes approximately)
- transitory waiting for ignition.

In this phase, the boiler waits for restoration of working conditions. If after the standby time, the boiler does not restore regular operation, the shutdown will be permanent and the signal light will be red.

Fast flashing (0.1 second on; then 0.1 second off; for 0.5 seconds) = Automatic Temperature Control System input/output function (fig. 35).

Setting the heating water temperature selector in the zone marked by symbols in bold type (temperature value from 55 to 65°C) activates the Automatic Temperature Control System: the boiler varies the output temperature according to the closing signal of the room thermostat.

When the temperature set with the heating water temperature selector is reached, a 20-minute countdown begins. If during this period the room thermostat still requests heat, the value of the set temperature automatically increases by 5°C.

When the new value is reached, other 20-minute countdown begins. If during this period the room thermostat still requests heat, the value of the set temperature automatically increases by 5°C. This new temperature value is the result of the temperature set manually with the heating water temperature selector and the increase of +10°C of the Automatic Temperature Control System (C.T.R.) function.

After the second cycle, the temperature value is not increased any further (set temperature +10°C) and cycle described above is repeated until the room thermostat request is met.

#### Fixed green

there is flame, the boiler works regularly.

#### Red LED

If the red LED lights up, this indicates the presence of a fault; the monitor shows a code interpreted as follows:

**A 01** flame lockout (fixed red LED + flame lockout icon 

**A 02** limit thermostat operation (flashing red LED)

**A 03** fan fault (fixed red LED)

**A 04** water pressure switch after transitory phase (fixed green + red LEDs + filling icon 

**A 06** domestic hot water NTC sensor (flashing red+green LEDs)

**A 07** delivery/return differential or heating NTC sensor (fixed red LED)

**A 08** delivery/return differential or return NTC sensor (fixed red LED)

**A 09** flue gas sensor heat safety operation (fixed red LED)

**A 09** flue gas NTC sensor or exchanger cleaning (flashing red+green LEDs)

**A 77** low temperature thermostat operation / generic alarm (flashing red+green LEDs)

#### To restore operation (deactivate alarms):

##### Faults A 01-02-03

Position the function selector to (OFF), wait 5-6 seconds then set it to the required position.

If the reset attempts do not reactivate the boiler, contact the Technical Assistance Centre.

#### Fault A 04

In addition to the fault code, the digital display shows the symbol .

Check the pressure value indicated by the water gauge:

if it is less than 0.3 bar, position the function selector to (OFF) and adjust the filling tap (B-fig.17) until the pressure reaches a value between 1 and 1.5 bar.

Then position the mode selector to the desired position.

The boiler will perform one purge cycle lasting approximately 2 minutes. If pressure drops are frequent, request the intervention of the Technical Assistance Service.

#### Fault A 06

The boiler operates normally but cannot reliably maintain a constant domestic hot water temperature, which remains set at around 50°C. Contact the Technical Assistance Centre.

#### Fault A 07

Contact the Technical Assistance Centre.

#### Fault A 08

Contact the Technical Assistance Centre.

#### Fault A 09 with fixed red LED lit

Position the function selector to (OFF), wait 5-6 seconds then set it to the required position.

If the reset attempts do not reactivate the boiler, request the intervention of the Technical Assistance Service.

#### Fault A09 with flashing red and green LEDs

Contact the Technical Assistance Centre.

#### Fault A77

This is an automatic-reset fault, if the boiler does not restart, contact the Technical Assistance Centre.

#### Fixed yellow LED

Pre-heating function activated

#### Flashing yellow LED

Combustion analysis in progress.

## TECHNICAL DATA

DESCRIPTION		CALDARIELLO CONDENS 25 KIS	
<b>Heating</b>	Nominal heat delivery in heating mode	kW	20,00
		kcal/h	17.200
	Nominal heat output (80/60°)	kW	19,50
		kcal/h	16.770
	Reduced nominal heat delivery (50°/30°)	kW	20,84
		kcal/h	17.922
	Reduced heat delivery	kW	5,00
		kcal/h	4.300
	Reduced heat output (80°/60°)	kW	4,91
		kcal/h	4.218
	Reduced heat output (50°/30°)	kW	5,36
		kcal/h	4.610
	Nominal Range Rated heat output (Qn)	kW	20,00
		kcal/h	17.200
	Minimum Range Rated heat output (Qm)	kW	5,00
		kcal/h	4.300
<b>DHW</b>	Nominal heat delivery	kW	25,00
		kcal/h	21.500
	Nominal heat output (*)	kW	25,00
			21.500
	Reduced heat delivery	kW	5,00
		kcal/h	4.300
	Heat output at minimum (*)	kW	5,00
		kcal/h	4.300
(*) average value of various DHW operating conditions			
Useful efficiency (Pn max - Pn min)	%	97,5-98,1	
Efficiency 30% (47° return)	%	102,2	
Combustion performance via analysis socket	%	97,7	
Useful efficiency Pn max - Pn min (50°/30°)	%	104,2-107,2	
Useful efficiency 30% (30° return)	%	108,9	
Average Range Rated efficiency Pn (80°/60°)	%	97,8	
Average Range Rated efficiency Pn (50°/30°)	%	106,0	
Electric power	W	110	
Category		II2H3P	
Country of destination		-	
Power supply voltage	V - Hz	230-50	
Degree of Protection	IP	X5D	
Pressure drops on flue with burner on	%	2,30	
Pressure drops on flue with burner off	%	0,10	
<b>Heating operation</b>			
Pressure - maximum temperature	bar	3-90	
Minimum pressure for standard operation	bar	0,25-0,45	
Selection field of heating water temperature	°C	20/45 – 40/80	
Pump: maximum head available for system capacity	mbar	150	
Membrane expansion tank	l	800	
Expansion tank pre-charge	bar	8	
<b>DHW operation</b>			
Maximum pressure	bar	6	
Minimum pressure	bar	0,15	
Hot water quantity with $\Delta t$ 25°C	l/min	14,3	
with $\Delta t$ 30°C	l/min	11,9	
with $\Delta t$ 35°C	l/min	10,2	
DHW minimum output	l/min	2	
Selection field of DHW temperature	°C	37-60	
Flow regulator	l/min	10	
<b>Gas pressure</b>			
Methane gas nominal pressure (G 20)	mbar	20	
LPG liquid gas nominal pressure (G 31)	mbar	37	
<b>Hydraulic connections</b>			
Heating input - output	Ø	3/4"	
DHW input-output	Ø	1/2"	
Gas input	Ø	3/4"	

DESCRIPTION		CALDARIELLO CONDENS 25 KIS	
<b>Boiler dimensions</b>			
Height	mm	715	
Width	mm	405	
Depth of housing	mm	250	
Boiler weight	kg	26	
<b>Flow rate (G20)</b>			
Air capacity	Nm <sup>3</sup> /h	24,908	31,135
Flue gas capacity	Nm <sup>3</sup> /h	26,914	33,642
Mass flow of flue gas (max-min)	gr/s	9,025-2,140	11,282-2,140
<b>Fan performance</b>			
Residual head of concentric pipes 0.85m	Pa	30	
Residual head of separate pipes 0.5m	Pa	90	
Residual head of boiler without pipes	Pa	100	
<b>Concentric flue gas discharge pipes</b>			
Diameter	mm	60-100	
Maximum length	m	5,85	
Drop due to insertion of a 45°/90° bend	m	0,5/0,85	
Hole in wall (diameter)	mm	105	
<b>Concentric flue gas discharge pipes</b>			
Diameter	mm	80-125	
Maximum length	m	15,30	
Losses for a 45°/90° bend	m	1/1,5	
Hole in wall (diameter)	mm	130	
<b>Separate flue gas discharge pipes</b>			
Diameter	mm	80	
Maximum length	m	45+45	
Losses for a 45°/90° bend	m	0,5/0,8	
<b>Installation B23P-B53P</b>			
Diameter	mm	80	
Maximum length of drainage pipe	m	70	
NOx class	class 5		
<b>Emission values at max. and min. rate of gas G20*</b>			
Maximum CO s.a. less than	ppm	180	
CO <sub>2</sub>	%	9,0	
NOx s.a. lower than	ppm	30	
Flue gas temperature	°C	65	
Minimum CO s.a. less than	ppm	20	
CO <sub>2</sub>	%	9,5	
NOx s.a. lower than	ppm	20	
Flue gas temperature	°C	58	

\* Check performed with concentric pipe ø 60-100, length 0.85m - water temperature 80-60°C

### Multigas table

DESCRIPTION		Methane gas (G20)	Propane (G31)
Lower Wobbe index (at 15°C-1013 mbar)	MJ/m <sup>3</sup> S	45,67	70,69
Net Calorific Value	MJ/m <sup>3</sup> S	34,02	88
Supply nominal pressure	mbar (mm W.C.)	20 (203,9)	37 (377,3)
Supply minimum pressure	mbar (mm W.C.)	10 (102,0)	
Diaphragm (number of holes)	Number	1	1
Diaphragm (diameter of holes)	mm	5,1	3,9
Silencer diaphragm (diameter)	mm	31	27
Heating maximum gas capacity	Sm <sup>3</sup> /h	2,12	
	kg/h		1,55
DHW maximum gas capacity	Sm <sup>3</sup> /h	2,64	
	kg/h		1,94
Heating minimum gas capacity	Sm <sup>3</sup> /h	0,53	
	kg/h		0,39
DHW minimum gas capacity	Sm <sup>3</sup> /h	0,53	
	kg/h		0,39
Number of fan rotations with slow switch-on	rpm	4.000	4.000
Maximum number of fan rotations (heating)	rpm	4.900	4.900
Maximum number of fan rotations (DHW)	rpm	6.100	6.100
Minimum number of fan rotations (heating)	rpm	1.400	1.400
Minimum number of fan rotations (DHW)	rpm	1.400	1.400

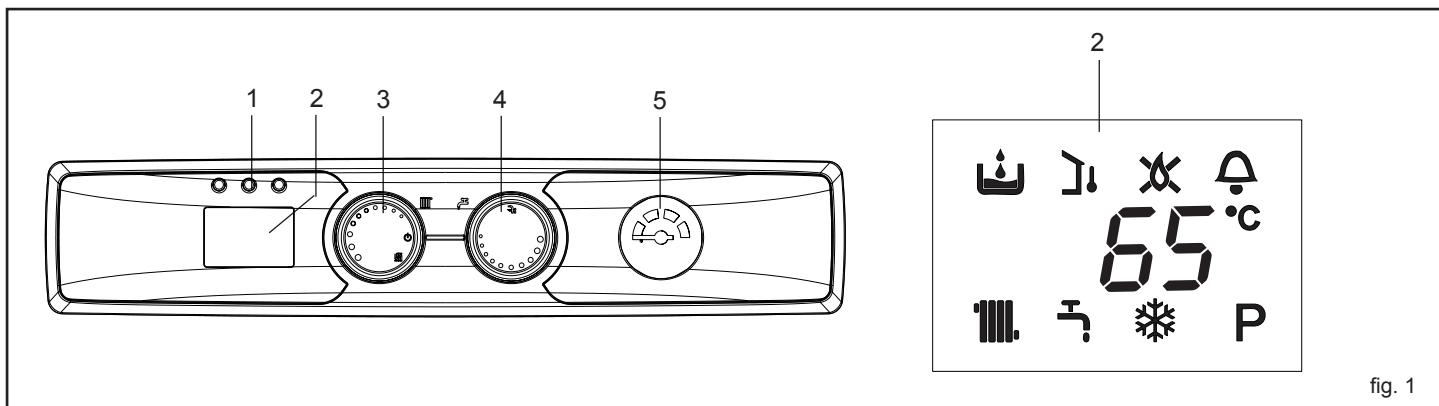


fig. 1

### [EN] - CONTROL PANEL

- 1 Boiler status LED
- 2 Digital display indicating the operating temperature and fault codes
- 3 Mode selector:
  - OFF/Reset alarms,
  - Summer mode,
  - Winter mode/Heating water temperature adjustment
- 4 Domestic hot water temperature adjustment
- Pre-heating function (faster hot water)
- 5 Water gauge

### Digital display (2) - Description of the icons

- System loading, this icon is displayed together with fault code A 04
- Thermoregulation: indicates connection to an external sensor
- Flame lockout, this icon is displayed together with fault code A 01
- Fault: indicates any operation fault and is displayed together with an alarm code
- Heating operation
- Domestic hot water operation
- Anti-frost: indicates that the anti-frost cycle is in progress
- Pre-heating (faster hot water): indicates that a pre-heating cycle is in progress (the burner is on)
- Heating/domestic hot water temperature or operation faults

### [HR] - KOMANDNA PLOČA

- 1 Signalizacijska led dioda stanja kotla
- 2 Digitalni indikator koji prikazuje radnu temperaturu i kodove pogreške
- 3 Birač funkcija:
  - Ugašen (OFF)/Reset alarma,
  - Ljeto,
  - Zima/Regulacija temperature voda za grijanje
- 4 Regulacija temperature sanitarnе vode
- Funkcija predgrijanja (brži dotok tople vode)
- 5 Hidrometar

### Digitalni indikator (2) - Opis ikona

- Punjenje instalacije, ova ikona se prikazuje zajedno s kodom pogreške A 04
- Termoregulacija: pokazuje povezanost s vanjskom sondom
- Blokada plamena, ova ikona prikazuje se zajedno s kodom pogreške A 01

### [SRB] - KOMANDNA TABLA

- 1 Led svetlo za signalizaciju statusa kotla
- 2 Digitalni displej koji označava temperaturu rada i kodove nepravilnosti
- 3 Birač funkcije:
  - Ugašeno (OFF)/Reset alarma,
  - Leto,
  - Zima/Podešavanje temperature vode za grejanje

- 4 Podešavanje temperature sanitarnе vode
- Funkcija predhodnog zagrevanja vode (voda se brže zagreva)
- 5 Hidrometar

### Digitalni displej (2) - Opis ikona

- Punjenje sistema, ova ikona se koristi uz kod za nepravilnost A 04
- Termoregulacija: ukazuje na povezanost sa spoljnom sondom
- Blokiranje plamena, ova ikona se koristi uz kod za nepravilnost A 01
- Nepravilnost: ukazuje na bilo kakvu nepravilnost u radu i koristi se uz neki od kodova za alarm
- Rad u sistemu za grejanje
- Rad u sanitarnom sistemu
- Sprečavanje zamrzavanja: ukazuje da je u toku ciklus sprečavanja zamrzavanja
- Predhodno zagrevanje vode (voda se brže zagreva): ukazuje da je u toku ciklus prethodnog zagrevanja (gorionik je upaljen)
- Temperatura grejanja/sanitarne vode ili nepravilnost u radu

**[SL] - NADZORNA PLOŠČA**

- 1 Led lučka statusa kotla
- 2 Digitalni prikazovalnik temperature delovanja in kod nepravilnosti
- 3 Izbirno stikalo delovanja: Izklop (OFF)/Reset alarmov,  
 Poletje,  
 Zima/Reguliranje temperature ogrevalne vode
- 4 Reguliranje temperature sanitarno vode
- 5 Funkcija predgrevanja (hitrejša priprava tople vode)
- 6 Tlak vode

**Digitalni prikazovalnik (2) - Opisi ikon**

- Polnjenje sistema, ta ikona je prikazana skupaj s kodo nepravilnosti A 04
- Toplotna regulacija: pomeni povezano zunanje tipalo
- Ni palmena, ta ikona je prikazana skupaj s kodo nepravilnosti A 01
- Nepravilnost: označuje vsako nepravilnost v delovanju in je prikazana skupaj s kodo alarmi
- Delovanje ogrevanja
- Delovanje priprave sanitarno vode
- Protizmrzovalna funkcija: označuje, da je v teku protizmrzovalni cikel
- Predgrevanje (hitrejša priprava tople vode): označuje, da je v teku cikel predgrevanja (gorilnik deluje)
- 65° Temperatura ogrevanja/sanitarno vode ali nepravilnost v delovanju

**[RO] - PANOU DE COMANDĂ**

- 1 Led de semnalizare stare centrală
- 2 Display digital unde sunt afișate temperatura de funcționare și codurile de anomalie
- 3 Selector de funcție: Oprit (OFF)/Resetare alarme,  
 Vară,  
 Iarnă/Reglare temperatură apă de încălzire
- 4 Reglare temperatură ACM
- 5 Funcție de preîncălzire (apă caldă mai rapid)
- 6 Termomanometru

**Display digital (2) - Descrierea simbolurilor**

- Umplere instalație; acest simbol este afișat împreună cu codul de anomalie A 04
- Termoreglare: indică conexiunea cu o sondă externă
- Lipsă flacără; acest simbol este afișat împreună cu codul de anomalie A 01
- Anomalie: indică o anumită anomalie de funcționare și este afișat împreună cu un cod de anomalie
- Funcționare în modul încălzire
- Funcționare în modul ACM
- Anti-îngheț: arată că este în desfășurare un ciclu anti-îngheț
- Preîncălzire (apă caldă mai rapid): arată că este în desfășurare un ciclu de preîncălzire (arzătorul este aprins)
- 65° Temperatură încălzire/ACM sau anomalie de funcționare

**[DE] - BEDIENFELD**

- 1 LED-Anzeige des Kesselzustands
- 2 Digitalanzeige, die die Betriebstemperatur und die Störungscodes anzeigt
- 3 Funktionswahlschalter: Ausgeschaltet (OFF)/Alarmrückstellung.  
 Sommer,  
 Winter/Einstellung der Heizwassertemperatur
- 4 Einstellung der Brauchwassertemperatur
- 5 Vorwärmfunktion (schnelleres Warmwasser)
- 6 Hydrometer

**Digitalanzeige (2) - Beschreibung der Symbole**

- Anlagenbefüllung, dieses Symbol wird gemeinsam mit dem Störungscode A 04 angezeigt
- Temperaturregelung: zeigt die Verbindung mit einem externen Fühler an
- Störabschaltung der Flamme, dieses Symbol wird gemeinsam mit dem Störungscode A 01 angezeigt
- Störung: zeigt eine Betriebsstörung an und wird gemeinsam mit einem Alarmcode angezeigt
- Heizbetrieb
- Brauchwasserbetrieb
- Frostschutz: zeigt an, dass der Frostschutzyklus im Gange ist
- Vorwärmfen (schnelleres Heißwasser): zeigt an, dass ein Vorwärmzyklus im Gange ist (der Brenner läuft)
- 65° Heizwasser-/Brauchwassertemperatur oder Betriebsstörung

greco

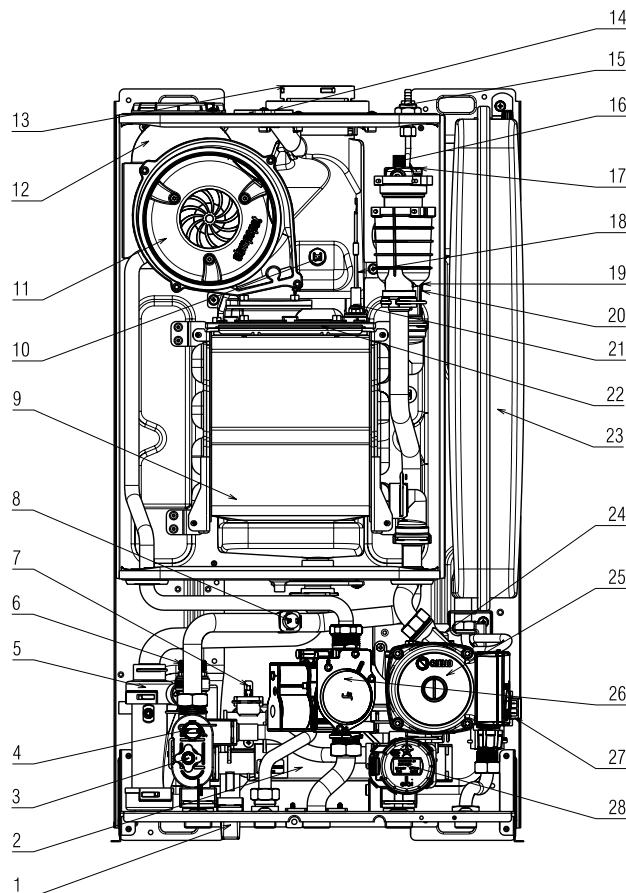


fig. 2

### [EN] - Functional elements of the boiler

- 1 - Filling tap
- 2 - DHW exchanger
- 3 - Drain valve
- 4 - Water pressure switch
- 5 - Siphon
- 6 - Safety valve
- 7 - Domestic hot water NTC sensor
- 8 - Return NTC sensor
- 9 - Main exchanger
- 10 - Flue gas probe
- 11 - Fan + mixer
- 12 - Silencer
- 13 - Flue gas discharge
- 14 - Flue gas analysis plug
- 15 - Manual air relief valve
- 16 - Upper air vent valve
- 17 - Ignition transformer
- 18 - Detection electrode
- 19 - Limit thermostat
- 20 - Delivery NTC sensor
- 21 - Ignition electrode
- 22 - Burner
- 23 - Expansion tank
- 24 - Lower air vent valve
- 25 - Circulation pump
- 26 - Gas valve
- 27 - Flow switch
- 28 - Three-way valve motor

### [SRB] - Funkcionalni delovi kotla

- 1 - Slavina za punjenje
- 2 - Izmenjivač za sanitarnu vodu
- 3 - Ventil za pražnjenje
- 4 - Presostat za vodu
- 5 - Sifon
- 6 - Sigurnosni ventil
- 7 - NTC sonda za sanitarnu vodu
- 8 - NTC sonda povratnog voda
- 9 - Primarni izmenjivač
- 10 - Sonda za dim
- 11 - Ventilator + mikser
- 12 - Prigušivač
- 13 - Izlaz za dimne gasove

### [SL] - Sestavni deli kotla

- 1 - Pipa za polnjenje
- 2 - Izmenjevalnik sanitarne vode
- 3 - Izpustni ventil
- 4 - Tlačni ventil vode
- 5 - Sifon
- 6 - Varnostni ventil
- 7 - NTC tipalo sanitarne vode
- 8 - NTC tipalo povratnega voda
- 9 - Glavni izmenjevalnik
- 10 - Tipalo dimnih plinov
- 11 - Ventilator + mešalnik
- 12 - Glušnik
- 13 - Odvod dimnih plinov
- 14 - Pokrovček odprtine za analizo dimnih plinov
- 15 - Ročni ventil za izločanje zraka
- 16 - Zgornji ventil za izločanje zraka
- 17 - Transformator za vžig
- 18 - Elektroda zaznavala
- 19 - Termostata na odvodu
- 20 - NTC tipalo mejnega
- 21 - Elektroda za vžig
- 22 - Gorilnik
- 23 - Raztezna posoda
- 24 - Spodnji ventil za izločanje zraka
- 25 - Pretočna črpalka
- 26 - Plinski ventil
- 27 - Pretočni ventil
- 28 - Motor tripotnega ventila

### [HR] - Radni elementi kotla

- 1 - Slavina za punjenje
- 2 - Izmjenjivač topline za sanitarnu vodu
- 3 - Ventil za pražnjenje
- 4 - Presostat vode
- 5 - Sifon
- 6 - Sigurnosni ventil
- 7 - Osjetnik NTC za sanitarnu vodu
- 8 - Osjetnik NTC povrata
- 9 - Glavni izmenjivač topline
- 10 - Osjetnik dimnih plinova
- 11 - Ventilator + mješalica
- 12 - Prigušivač
- 13 - Ispust dimnih plinova
- 14 - Čep otvora za analizu dimnih plinova
- 15 - Ventil za ručno odzračivanje
- 16 - Gornji ventil za odzračivanje
- 17 - Transformator paljenja
- 18 - Elektroda za raspoznavanje
- 19 - Termostata limitatora
- 20 - Osjetnik NTC potisa
- 21 - Elektroda za paljenje
- 22 - Plamenik
- 23 - Ekspanziona posoda
- 24 - Donji ventil za odzračivanje
- 25 - Cirkulacijska crpka
- 26 - Plinski ventil
- 27 - Flusostat
- 28 - Motor tropotnog ventila

### [RO] - ELEMENTELE FUNCȚIONALE ALE CENTRALEI

- 1 - Robinet de umplere
- 2 - Schimbător ACM
- 3 - Robinet de golire
- 4 - Presostat de apă
- 5 - Sifon
- 6 - Supapă de siguranță
- 7 - Sondă NTC ACM
- 8 - Sondă NTC return
- 9 - Schimbător principal
- 10 - Sondă fum
- 11 - Ventilator + mixer
- 12 - Amortizor
- 13 - Evacuare fum

- 14 - Capac priză analiză fum
- 15 - Vana de evacuare a aerului manuală
- 16 - Vană de evacuare aer superioară
- 17 - Trasformator de aprindere
- 18 - Electrod de relevare flacără
- 19 - Termostat limită
- 20 - Sondă NTC tur
- 21 - Electrod de aprindere
- 22 - Arzător
- 23 - Vas de expansiune
- 24 - Vană de evacuare aer inferioară
- 25 - Pompă de circulație
- 26 - Vană gaz
- 27 - Fluxostat
- 28 - Motor vană cu trei căi

#### [DE] - Funktionselemente des Kessels

- 1 - Füllventil
- 2 - Brauchwasserwärmetauscher
- 3 - Ablassventil
- 4 - Wasserdruckwächter
- 5 - Siphon
- 6 - Sicherheitsventil
- 7 - NTC-Brauchwasserfühler
- 8 - NTC-Rücklauffühler
- 9 - Hauptwärmetauscher
- 10 - Abgasfühler
- 11 - Gebläse + Mischer
- 12 - Schalldämpfer
- 13 - Abgasführung
- 14 - Verschluss für Abgasprüfanschluss
- 15 - Manuelle Entlüftungsventil
- 16 - Oberes Entlüftungsventil
- 17 - Zündtransformator
- 18 - Flammentüberwachungselektrode
- 19 - Grenzthermostat
- 20 - NTC-Vorlauffühler
- 21 - Zündelektrode
- 22 - Brenner
- 23 - Ausdehnungsgefäß
- 24 - Unteres Entlüftungsventil
- 25 - Umlaufpumpe
- 26 - Gasventil
- 27 - Flusswächter
- 28 - Stellmotor 3-Wege-Ventil

GRECO

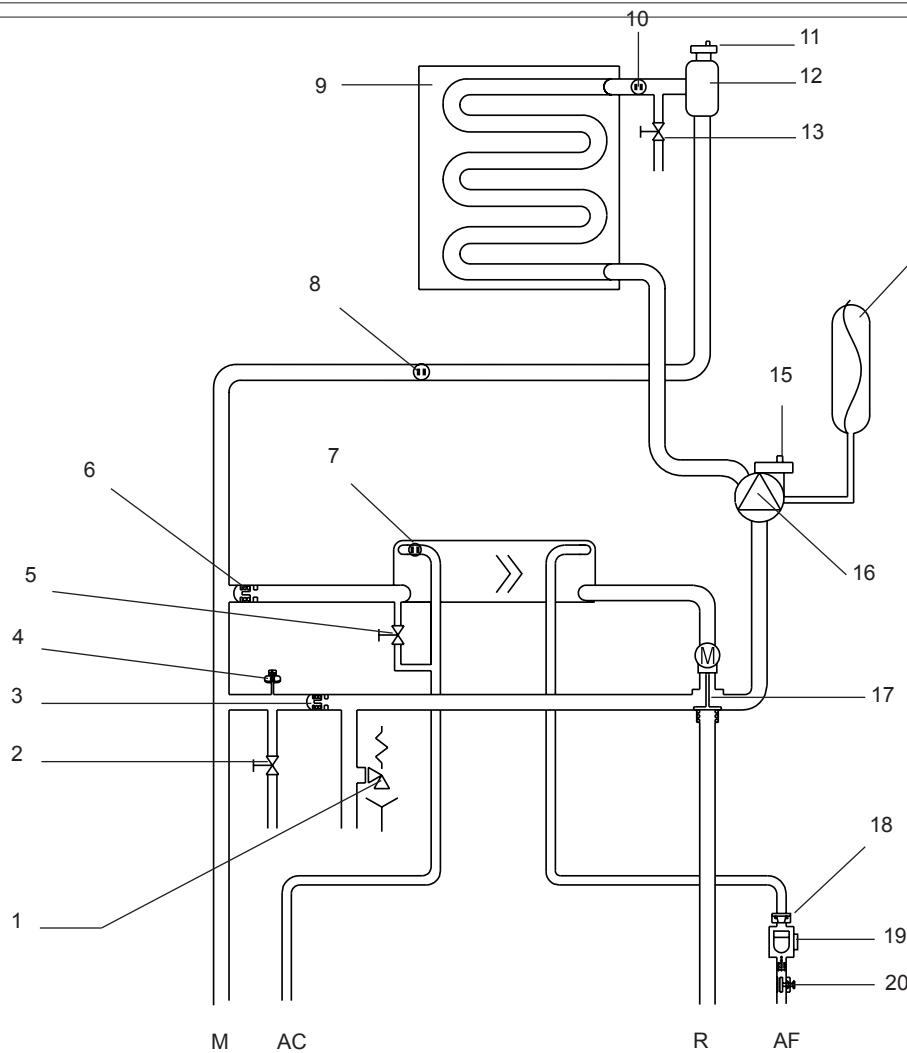


fig. 3

**[EN] - Hydraulic circuit**

AF DHW input  
 AC DHW output  
 M Heating delivery  
 R Heating return  
 1 - Safety valve  
 2 - Drain valve  
 3 - Automatic by-pass  
 4 - Pressure switch  
 5 - Filling tap  
 6 - Non-return valve  
 7 - Domestic hot water NTC sensor  
 8 - Return NTC sensor  
 9 - Primary exchanger  
 10 - NTC sensor (delivery)  
 11 - Upper air vent valve  
 12 - Air/water separator  
 13 - Manual vent valve  
 14 - Expansion tank  
 15 - Lower air vent valve  
 16 - Circulator  
 17 - Three-way valve  
 18 - Flow regulator  
 19 - Flow switch  
 20 - Domestic hot water filter

**[SRB] - Hidraulični sistem**

AF Ulazni vod za sanitarnu vodu  
 AC Izlazni vod za sanitarnu vodu  
 M Razvodni vod grejanja  
 R Povratni vod grejanja  
 1 - Sigurnosni ventil  
 2 - Ventil za pražnjenje  
 3 - Automatski bajpas  
 4 - Presostat  
 5 - Slavina za punjenje  
 6 - Nepovratni ventil  
 7 - NTC sonda za sanitarnu vodu  
 8 - NTC sonda povratnog voda

9 - Primarni izmenjivač  
 10 - NTC sonda razvodnog voda  
 11 - Odzračni gornji ventil  
 12 - Separator voda/vazduh  
 13 - Ventil za ručno odzračivanje  
 14 - Ekspanziona posuda  
 15 - Odzračni donji ventil  
 16 - Cirkulaciona pumpa  
 17 - Trokraki ventil  
 18 - Limitator kapaciteta  
 19 - Flusostat  
 20 - Filter sanitarne vode

**[HR] - Hidraulički sustav**

AF Ulaz sanitarne vode  
 AC Izlaz sanitarne vode  
 M Potis grijanja  
 R Povrat grijanja  
 1 - Sigurnosni ventil  
 2 - Ventil za pražnjenje  
 3 - Automatski premosni ventil  
 4 - Presostat  
 5 - Slavina za punjenje  
 6 - Protupovratni ventil  
 7 - Osjetnik NTC sanitarne vode  
 8 - Osjetnik NTC povrata  
 9 - Primarni izmenjivač topline  
 10 - Osjetnik NTC potisa  
 11 - Gornji ventil za odzračivanje  
 12 - Separator vode/zraka  
 13 - Ventil za ručno odzračivanje  
 14 - Ekspanzionska posuda  
 15 - Donji ventil za odzračivanje  
 16 - Cirkulacijska crpka  
 17 - Troputni ventil  
 18 - Limitator kapaciteta  
 19 - Flusostat  
 20 - Filter sanitarne vode

**[SL] - Hidraulični krog**

AF Vstop sanitarne vode  
 AC Izstop sanitarne vode  
 M Odvod za ogrevanje  
 R Povratni vod ogrevanja  
 1 - Varnostni ventil  
 2 - Izpustni ventil  
 3 - Avtomatski obvod  
 4 - Tlačni ventil  
 5 - Pipa za polnjenje  
 6 - Protipovratni ventil  
 7 - NTC tipalo sanitarne vode  
 8 - NTC tipalo povratnega voda  
 9 - Primarni izmenjevalnik  
 10 - NTC tipalo odvoda  
 11 - Zgornji ventil za izločanje zraka  
 12 - Separator voda/zrak  
 13 - Ročni ventil za izločanje zraka  
 14 - Raztezna posoda  
 15 - Spodnji ventil za izločanje zraka  
 16 - Pretočna crpalka  
 17 - Tripotni ventil  
 18 - Regulator pretoka  
 19 - Pretočni ventil  
 20 - Filter sanitarne vode

**[RO] - CIRCUITUL HIDRAULIC**

AF Intrare apă rece  
 AC Iesire ACM  
 M Tur încălzire  
 R Retur încălzire  
 1 - Supapă de siguranță  
 2 - Robinet de golire  
 3 - By-pass automat  
 4 - Presostat  
 5 - Robinet de umplere  
 6 - Supapă anti-retur  
 7 - Sondă NTC ACM  
 8 - Sondă NTC retur  
 9 - Schimbător principal

- 10 - Sondă NTC tur
- 11 - Vană de evacuare aer superioară
- 12 - Separator apă/aer
- 13 - Vană de evacuare aer manuală
- 14 - Vas de expansiune
- 15 - Vană de evacuare aer inferioară
- 16 - Pompă de circulație
- 17 - Vană cu trei căi
- 18 - Limitator de debit
- 19 - Fluxostat
- 20 - Filtru

**[DE] - Wasserkreis**

- AF Brauchwassereintritt
- AC Brauchwasseraustritt
- M Heizungsvorlauf
- R Heizungsrücklauf
- 1 - Sicherheitsventil
- 2 - Ablassventil
- 3 - Automatischer Bypass
- 4 - Druckwächter
- 5 - Füllventil
- 6 - Rückschlagventil
- 7 - NTC-Brauchwasserfühler
- 8 - NTC-Rücklauffühler
- 9 - Primärwärmetauscher
- 10 - NTC-Vorlauffühler
- 11 - Oberes Entlüftungsventil
- 12 - Wasser/Luft Abscheider
- 13 - Manuelles Entlüftungsventil
- 14 - Ausdehnungsgefäß
- 15 - Unteres Entlüftungsventil
- 16 - Umlaufpumpe
- 17 - 3-Wege-Ventil
- 18 - Leistungsbegrenzer
- 19 - Flusswächter
- 20 - Das Filter sanitäres Wassers

GRECO

“L-N” POLARITY IS RECOMMENDED / DIE ANSCHLUSSFOLGE “L-N” WIRD EMPFOHLEN / PRIPOROČAMO “L-N” POLARIZACIJO /  
PREPORUČUJE SE POLARIZACIJA “L-N” / SAVETUJE SE POLARIZACIJA “L-N” / ESTE RECOMENDADA POLARIZAREA “L-N”

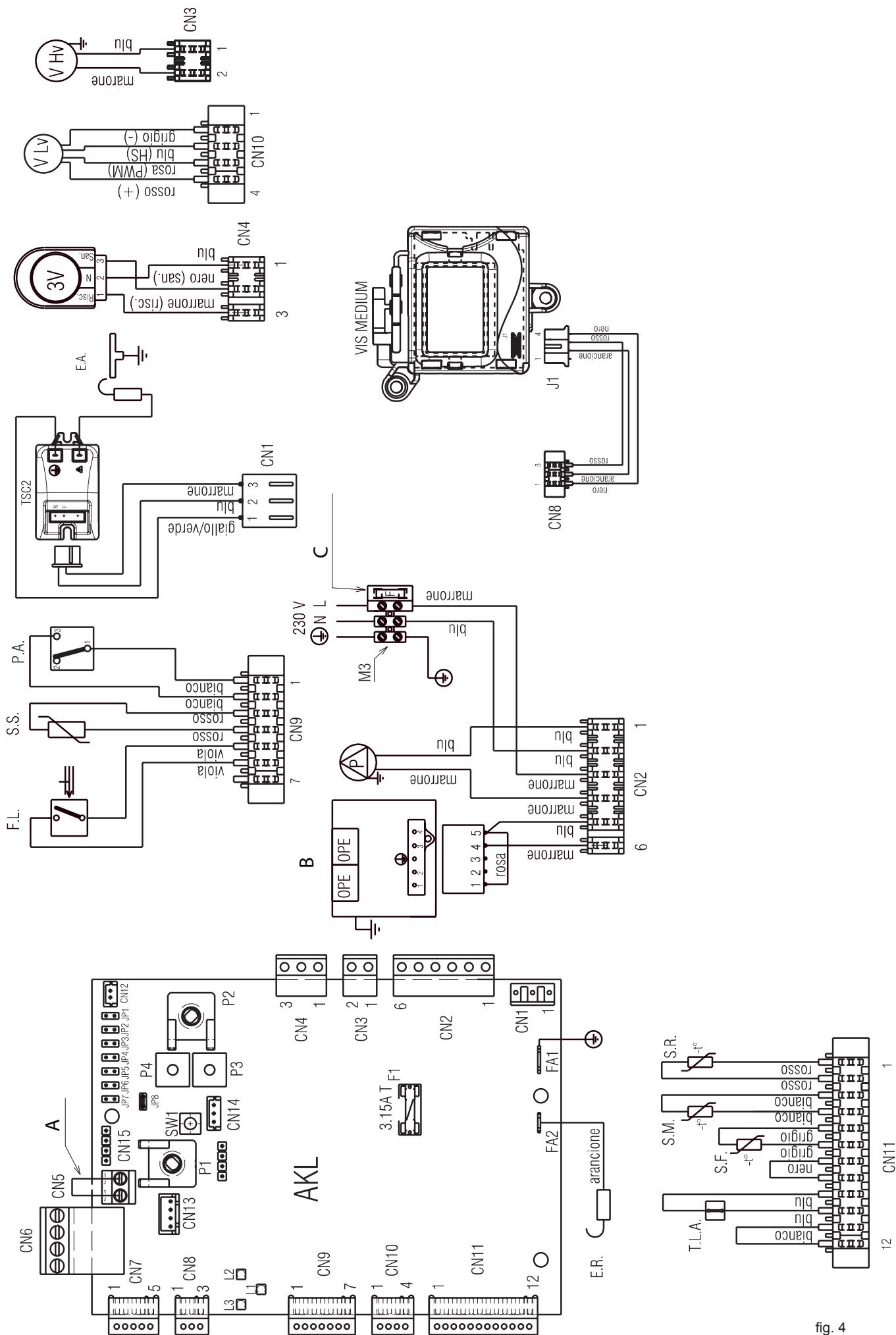


fig. 4

## [EN] - Multiwire wiring diagram

Blu=Blue / Marrone=Brown / Nero=Black / Rosso=Red / Bianco=White / Viola=Violet  
 / Rosa=Pink / Arancione=Orange / Grigio=Grey / Giallo=Yellow / Verde=Green  
 A = 24V Low voltage ambient thermostat jumper  
 B = Gas valve  
 C = Fuse 3.15A F  
 AKL Control board  
 P1 Potentiometer to select off - summer - winter – reset / heating temperature  
 P2 Potentiometer to select domestic hot water set point, and enable/disable pre-heating function  
 P3 Thermoregulation curve preselection  
 P4 Not used  
 JP1 Enable front knobs for calibration of maximum heat only (MAX\_CD\_ADJ)  
 JP2 Reset heating timer  
 JP3 Enable front knobs for calibration in service (MAX, MIN, MAX\_CH, RLA)  
 JP4 Absolute domestic hot water thermostat selector  
 JP5 Not used  
 JP6 Enable night-time compensation function and continuous pump  
 JP7 Enable management of low temperature/standard installations  
 JP8 Do not use  
 LED LED 1 (green) to indicate operating status or temporary shutdown  
 LED 2 (yellow) to indicate preheating is ON and chimney sweep function  
 LED 3 (red) to indicate permanent lockout status  
 CN1-CN15 Connectors (CN6 control panel /outer sensor kit – CN7 local valve kit) -  
 CN5 room thermostat (24 VDC)  
 S.W. Chimney sweep function, interruption of purge cycle and calibration when enabled.  
 E.R. Flame detection electrode  
 F1 Fuse 3.15A T  
 F External fuse 3.15A F  
 M3 Terminal board for external connections  
 P Pump  
 OPE Gas valve operator  
 V Hv Fan power supply 230V  
 V Lv Fan control signal  
 3V 3-way servomotor valve  
 E.A. Ignition electrode  
 TSC2 Ignition transformer  
 F.L. Domestic hot water flow switch  
 S.S. Domestic hot water circuit temperature sensor (NTC)  
 P.A. Water pressure switch  
 T.L.A. Water limit thermostat  
 S.F. Flue gas probe  
 S.M. Delivery temperature sensor on primary circuit  
 S.R. Return temperature sensor on primary circuit  
 J1 Connectors  
 VIS MEDIUM Digital monitor

## [SRB] - Električna šema

Plava=Blu/Smeđa=Marrone/Crna=Nero/Crvena=Rosso/Bela=Bianco/Ljubičasta=Viola/Siva=Grigio/Giallo=Žuta/Arancione=Narandžasta/Verde=Zelena/Rosa=Roze  
 A = Jumper termostat niskog napona 24V  
 B = Ventil za gas  
 C = Osigurač 3.15A F  
 AKL Komandna ploča  
 P1 Potenciometar izbor off – leto – zima – reset / temperatura grejanja  
 P2 Potenciometar izbor zadate vrednosti sanitarnog sistema, omogućavanje/ onemogućavanje funkcije prethodnog zagrevanja  
 P3 Predselekcija termoregulacione krive  
 P4 Ne koristi se  
 JP1 Osnovljavanje prednjih dugmadi za kalibriranje samo maksimalnog grejanja (MAX\_CD\_ADJ)  
 JP2 Resetovanje tajmera za grejanje  
 JP3 Osnovljavanje prednjih dugmadi za kalibriranje in service (MAX, MIN, MAX\_CH, RLA)  
 JP4 Birač za sanitare i centralne termostate  
 JP5 Neiskorišćen  
 JP6 Omogućavanje funkcije noćne kompenzacije i kontinuiranog rada pumpe  
 JP7 Omogućavanje upravljanja sistemima pri standardnoj / niskoj temperaturi  
 JP8 Ne koristi  
 LED Led 1 (zeleno) signaliziranje statusa rada ili privremenog zastoja  
 Led 2 (žuto) signaliziranje prethodnog zagrevanja ON i čišćenja dimnjaka  
 Led 3 (crveno) signaliziranje statusa definitivne blokade  
 CN1-CN15 Konektori povezivanja  
 (CN6 oprema spoljne sonde/komandne table – CN7 oprema zonskih ventila - CN5 sobni termostat (24 Vdc)  
 S.W. Čišćenje dimnjaka, prekid ciklusa ozračivanja i kalibriranje kada je omogućeno.  
 E.R. Jonizaciona elektroda  
 F1 Osigurač 3.15A T  
 F Eksterni osigurač 3.15A F  
 M3 Redna stezaljka za spoljašnja povezivanja  
 P Pumpa  
 OPE Operator ventila za gas  
 V Hv Napajanje ventilatora 230 V  
 V Lv Signal kontrole ventilatora  
 3V Servomotor trokrakog ventila  
 E.A. Elektroda paljenja  
 TSC2 Transformator paljenja  
 F.L. Regulator sanitarnog protoka  
 S.S. Sonda (NTC) temperature sanitarnog sistema  
 P.A. Presostat za vodu  
 T.L.A. Granični termostat za vodu  
 S.F. Sonda sa dim  
 S.M. Sonda razvodnog voda za temperaturu u primarnom kolu  
 S.R. Sonda povratnog voda za temperaturu u primarnom kolu  
 J1 Konektori povezivanja  
 VIS MEDIUM Digitalni displej

## [HR] - Višežičana električna shema

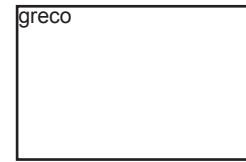
Plavo=Blu/Smeđe=Marrone/Crno=Nero/Crveno=Rosso/Bijelo=Bianco/Ljubičasto=Viola/Sivo=Grigio/Giallo=Žuta/Arancione=Narandžasta/Verde=Zelena/Rosa=Roze  
 A = Niskonaponski premosnik sobnog termostata 24V  
 B = Plinski ventil - C = Osigurač 3.15A F  
 AKL Upravljačka ploča  
 P1 Potenciometar za odabir off - ljetno - zima – reset / temperatura grijanja  
 P2 Potenciometar za odabir potrebe vrijednosti sanitarne vode, omogućavanje/ onemogućavanje funkcije predgrijanja  
 P3 Predodabir krivulja termoregulacije  
 P4 Ne koristi se  
 JP1 Omogućavanje prednjih komandi za baždarenje maksimalne vrijednosti grijanja (MAX\_CD\_ADJ)  
 JP2 Resetiranje tajmera grijanja  
 JP3 Omogućavanje prednjih komandi za baždarenje u servisu (MAX, MIN, MAX\_CH, RLA)  
 JP4 Izbornik apsolutnih termostata sanitarne vode  
 JP5 Ne koristi se  
 JP6 Omogućavanje funkcije noćne kompenzacije i neprekidnog rada pumpe  
 JP7 Omogućavanje upravljanjem standardnim instalacijama / instalacijama za nisku temperaturu  
 JP8 Ne koristi  
 LED Led 1 (zeleno svjetlo) prikaz stanja rada ili privremenog zaustavljanja  
 Led 2 (žuto svjetlo) prikaz uključenog predgrijanja ON i čišćenja dimnjaka  
 Led dioda 3 (crvena) prikaz stanja konačne blokade  
 CN1-CN15 Uticaji za priključivanje  
 (CN6 komplet vanjskog osjetnika/upravljačke ploče – CN7 lokalni komplet ventila - CN5 sobni termostat (24 Vdc)  
 S.W. Čišćenje dimnjaka, prekid ciklusa ozračivanja i baždarenje kad je omogućeno.  
 E.R. Elektroda za raspoznavanje plamena  
 F1 Osigurač 3.15A T  
 F Vanjski osigurač 3.15A F  
 M3 Redna stezaljka za vanjske priključke  
 P Pumpa  
 OPE Operator plinskog ventila  
 V Hv Napajanje ventilatora 230 V  
 V Lv Signal kontrole ventilatora  
 3V Servomotor trokrakog ventila  
 E.A. Elektroda za paljenje  
 TSC2 Transformator paljenja  
 F.L. Flusostat sanitarne vode  
 S.S. Sonda (NTC) temperature sustava sanitarne vode  
 P.A. Presostat vode  
 T.L.A. Termostat limitatora vode  
 S.F. Osjetnik dimnih plinova  
 S.M. Osjetnik temperature potisa na primarnom sustavu  
 S.R. Osjetnik temperature povrata na primarnom sustavu  
 J1 Spojni konektor  
 VIS MEDIUM Digitalni indikator

## [SL] - Večžilna električna shema

Modra=Blu/Rjava=Marrone/Črna=Nero/Rdeča=Rosso / Bela=Bianco / Vijolična=Viola /Siva=Grigio / Giallo=Rumeni / Arancione=Oranžna / Verde=Zelena / Rosa=Rožnata  
 A = Mostiček nizkonapetostnega termostata prostora 24V  
 B = Ventil plina  
 C = Varovalka 3.15A F  
 AKL Krmilna kartica  
 P1 Potenciometar za izbiro off – poletje – zima – reset / temperatura ogrevanja  
 P2 Potenciometer za izbiro nastavitev sanitarnega kroga, vklop/izklop funkcije predgrevanja  
 P3 Predizbira krivulj toplotne regulacije  
 P4 Ni v uporabi  
 JP1 Vkllop prednjih vrtljivih gumbov za nastavitev samo najmočnejšega ogrevanja (MAX\_CD\_ADJ)  
 JP2 Ponastavitev časovnika ogrevanja  
 JP3 Vkllop prednjih vrtljivih gumbov za nastavitev na servis (MAX, MIN, MAX\_CH, RLA)  
 JP4 Izbirno stikalo apsolutnih termostatov sanitarne vode  
 JP5 Ni v uporabi  
 JP6 Vklop funkcije noćne kompenzacije in stalnega delovanja črpalke  
 JP7 Vklop upravljanja standardnih/nizkotemperturnih sistemov  
 JP8 Ne uporabljajo  
 LED Led 1 (zeleno) za javljanje statusa delovanja ali začasne ustavitev  
 Led 2 (rumena) za javljanje predgrevanja ON in dimnikarja  
 Led 3 (rdeča) za javljanje statusa definitivne blokade  
 CN1-CN15 Spojniki za povezavo  
 (CN6 komplet zunanjega tipala/nadzorne plošče – CN7 komplet lokalnega ventila- CN5 sobni termostat (24 Vdc)  
 S.W. Dimnikar, prekinitev cikla izločanja zraka in umerjanja, ko je vklapljen.  
 E.R. Elektroda za zaznavanje plamena  
 F1 Varovalka 3.15A T  
 F Zunanja varovalka 3.15A F  
 M3 Spojni blok za zunanjou povezavo  
 P Črpalka  
 OPE Upravitelj plinskega ventila  
 V Hv Napajanje ventilatora 230 V  
 V Lv Signal nadzora ventilatorja  
 3V Servomotor tripotnega ventila  
 E.A. Elektroda za vžig  
 TSC2 Transformator za vžig  
 F.L. Pretočni ventil sanitarne veje  
 S.S. Tipalo (NTC) temperature sanitarne veje  
 P.A. Tlačni ventil vode  
 T.L.A. Mejni termostat vode  
 S.F. Tipalo dimnih plinov  
 S.M. Tipalo temperature primarne veje na odvod  
 S.R. Tipalo temperature primarne veje na povratnem vodu  
 J1 Spojnik za povezavo  
 VIS MEDIUM Digitalni prikazovalnik

**[RO] - SCHEMA ELECTRICĂ MULTIFILARĂ**

Bleumarin=Blu/Maron=Marrone/Negru=Nero/Roșu=Rosso/Alb=Bianco/Violet=Viola/  
 Gri=Grigio / Rosa=Roz / Arancione=Portocaliu / Giallo=Galben/ Verde=Verde  
 A = Punte termostat ambițană joasă tensiune 24V - B = Valvă gaz  
 C = Rezistență 3.15A F  
 AKL Placă de comandă  
 P1 Potențiometru selecție off – vară – iarnă – reset / temperatură încălzire  
 P2 Potențiometru selecție punct setat ACM, activare/dezactivare funcție preîncălzire  
 P3 Preselecție curbe de termoreglare  
 P4 Nu este utilizat  
 JP1 Activare butoane frontale de reglare doar a maximului de încălzire (MAX\_CD\_ADJ)  
 JP2 Resetare contor încălzire  
 JP3 Activare butoane frontale pentru reglarea în service (MAX, MIN, MAX\_CH, RLA)  
 JP4 Selector termostate sanitare absolute  
 JP5 Nu este utilizat  
 JP6 Activare funcție de compensare nocturnă și pompă la funcționare continuă,  
 JP7 Activare gestiune instalații standard / joasă temperatură  
 JP8 Nu utilizati  
 LED Led 1 (verde) de semnalizare stare de funcționare sau oprire temporară  
 Led 2 (galben) de semnalizare preîncălzire ON și funcție coșar  
 Led 3 (roșu) de semnalizare blocare definitivă  
 CN1-CN15 Conectori de legătură (CN6 kit sondă externă/panou de comandă – CN7 kit valve de zonă - CN5 termostat de ambient (24 Vdc)  
 S.W. Funcție coșar, întrerupere ciclu de dezaerare și calibrare când este activată.  
 E.R. Electrod de relevare flacără  
 F1 Siguranță 3.15A T  
 F Siguranță externă 3.15A F  
 M3 Bornă de conexiuni externe  
 P Pompă de circulație  
 OPE Operator vană gaz  
 V Hv Alimentare ventilator 230 V  
 V Lv Semnal control ventilator  
 3V Servomotor vană cu 3 căi  
 E.A. Electrod de aprindere  
 TSC2 Trasformator de aprindere  
 F.L. Fluxostat ACM  
 S.S. Sondă (NTC) temperatură circuit ACM  
 P.A. Presostat de apă  
 T.L.A. Termostat limită apă  
 S.F. Sondă fum  
 S.M. Sondă tur temperatură circuit încălzire  
 S.R. Sondă return temperatură circuit încălzire  
 J1 Conector de legătură  
 VIS MEDIUM Display

**[DE] - Feindrähtiger Schaltplan**

Blau=Blu / Braun=Marrone / Schwarz=Nero / Rot=Rosso / Weiß=Bianco / Violett=Viola/  
 Grau=Grigio / Arancione=orange / Rosa=rosa / Giallo=Galben / Verde=Grün  
 A = Überbrückung f. Raumthermostat Niederspannung 24V - B = Gasventil  
 C = Sicherung 3.15A F  
 AKL Steuerplatine  
 P1 Potentiometer für Auswahl off – Sommer – Winter – Rückstellung / Heiztemperatur  
 P2 Potentiometer für Auswahl Soll-Brauchwassertemperatur, Ein-/Ausschalten der Vorwärmfunktion  
 P3 Vorauswahl der Kennlinien für die Temperaturregelung  
 P4 Nicht in Verwendung  
 JP1 Aktivierung der Frontgriffe für die bloße Einstellung des maximalen Heizwertes (MAX\_CD\_ADJ)  
 JP2 Nullstellung Heizungstimer  
 JP3 Aktivierung der Frontgriffe für Serviceeinstellung (MAX, MIN, MAX\_CH, RLA)  
 JP4 Wahlschalter Brauchwasserthermostate mit 1 Sensor  
 JP5 Nicht in Verwendung  
 JP6 Aktivierung der Funktion Nachtabsenkung und Pumpe in Dauerbetrieb  
 JP7 Aktivierung der Steuerung der Standardanlagen / Niedertemperaturanlagen  
 JP8 nicht verwenden  
 LED Led 1 (grün) Anzeige des Betriebszustands oder des Zustands vorübergehendes Anhalten - Led 2 (gelb) Anzeige Vorwärmung ON und Rauchfangkehrer - Led 3 (rot) Zustandsanzeige endgültige Störabschaltung  
 CN1-CN15 Anschlussstecker  
 (CN6 Bausatz Außenfühler/Bedienfeld – CN7 Bausatz Bereichsventil -  
 CN5 Raumthermostat (24 Vdc)  
 S.W. Kaminkehrer, Unterbrechung Entlüftungszyklus und Einstellung wenn aktiviert.  
 E.R. Flammenüberwachungselektrode  
 F1 Sicherung 3.15A T  
 F Externe Sicherung 3.15A F  
 M3 Klemmleiste Außenanschlüsse  
 P Pumpe  
 OPE Betätigungsglied Gasventil  
 V Hv Stromversorgung für Gebläse 230 V  
 V Lv Anzeige Gebläsekontrolle  
 3V Stellmotor 3-Wege-Ventil  
 E.A. Zündelektrode  
 TSC2 Zündtransformator  
 F.L. Brauchwasser-Flusswächter  
 S.S. (NTC) Brauchwassertemperaturfühler  
 P.A. Wasserdruckwächter  
 T.L.A. Grenzthermostat Wasserübertemperatur  
 S.F. Abgasfühler  
 S.M. Vorlauffühler für Primärkreistemperatur  
 S.R. Rücklaufühler für Primärkreistemperatur  
 J1 Anschlussstecker  
 VIS MEDIUM Digitalanzeige

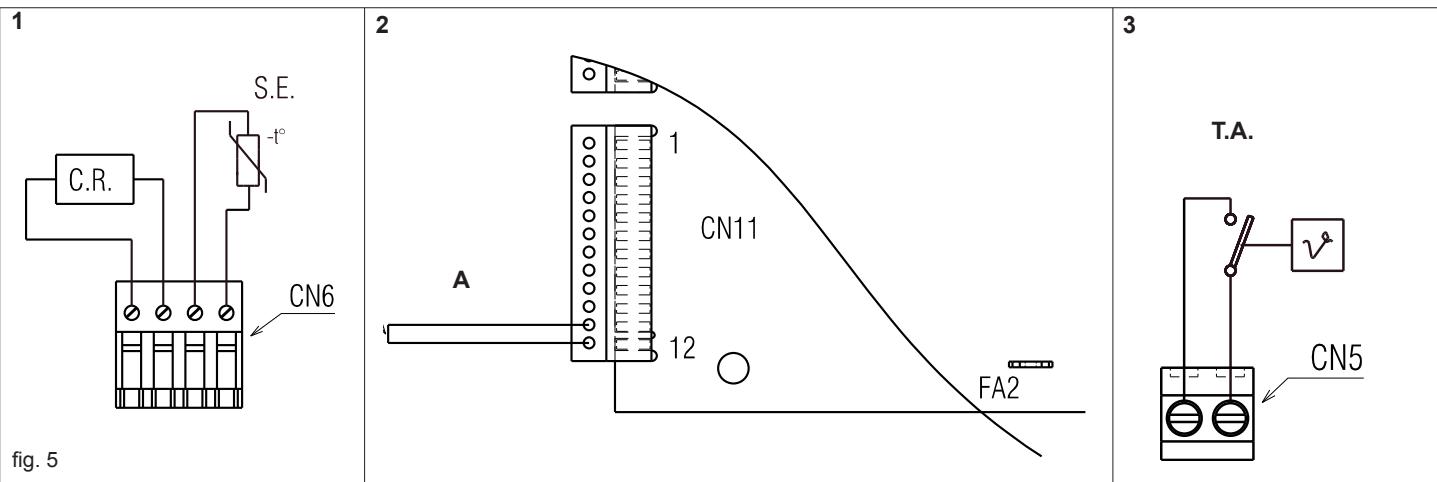


fig. 5

**[EN] - External connections**

- Low voltage devices should be connected to a CN6 connector, as shown in the figure:  
C.R. = Remote control T  
S.E. = External sensor
- To connect the following devices:  
T.B.T. = low temp. thermostat  
A.G. = generic alarm  
the white jumper on the 12-pole CN11 connector marked "TbT" must be cut in half; strip the wires and use a 2-pole electric clamp for the connection.  
A = white
- The room thermostat (24V) (T.A.) should be connected as indicated in the diagram once the U-bolt on the 2-way connector (CN5) has been removed.

**[SRB] - Spoljašnja povezivanja**

- Potrošači niskog napona biće povezani na konektor CN6 kao što je prikazano na slici :  
C.R. T daljinsko upravljanje  
S.E. Spoljašnja sonda
- Da bi se obavilo povezivanje:  
T.B.T. = termostata niske temperature  
A.G. = opštег alarm  
potrebno je preseći na pola beli džamper koji se nalazi na konektoru CN11 (12 iglica) i koji je označen natpisom TbT, oljuštiti kablove i koristiti električnu stezaljku sa 2 pola za spajanje.  
A = Bela
- Sobni termostat (24 Vdc) se dodaje kao što je prikazano na šemi nakon što se skine džamper koji se nalazi na konektoru 2 (CN5)

**[HR] - Vanjski priključci**

- Korisnici niskog napona spajaju se na konektor CN6 se kao što je prikazano na slici:  
D.U. T daljinsko upravljanje  
V.O. Vanjski osjetnik
- Za izvođenje priključaka:  
T.N.T. = termostat niske temper  
O.A. = opći alarm  
potrebno je po pola prerezati premosnik bijele boje koji se nalazi na konektoru CN11 (12-polni) i označen je natpisom TbT, skinite izolaciju sa žica, te za spoj upotrijebite 2-polnu električnu stezaljku.  
A = Bijelo
- Sobni termostat (24 Vdc) (T.A.) postavlja se kao što je prikazano na shemi nakon što se skine premosnik s konektora s 2 voda (CN5)

**[SL] - Zunanje povezave**

- Nizkonapetostni porabniki se priklopijo na spojnik CN6, kot je prikazano na sliki:  
C.R. = T daljinsko upravljanje  
S.E. = Zunanje tipalo
- Z izvedbo povezav:  
T.B.T. = termostata niske temper  
A.G. = splošnega alarm  
morate na pol prerezati mostiček bele barve, ki se nahaja na spojniku CN11 (12 polov) in je označen z napisom TbT, olupiti žici in uporabiti spojni blok z 2 priključki za spajanje.  
A = Bela
- Sobni termostat (24 Vdc) (T.A.) se prikluje kot je prikazano v shemi, s tem, da prej odstranite mostiček, ki se nahaja na dvopolnem spojniku (CN5)

**[RO] - CONEXIUNI EXTERNE**

- Conexiunile de joasă tensiune trebuie legate pe conectorul CN6, după cum se arată în figura de mai sus:  
C.R. = T comandă la distanță  
S.E. = Sondă externă
- Pentru a efectua conexiunea:  
T.B.T. = termostat joasă temperatură  
A.G. = alarmă generică  
trebuie să tălați la jumătate jumperul de culoare albă de pe conectorul CN11 (12 pini) și marcat cu scrisul TbT; înălăturați izolația cablurilor și utilizați un conector

electric cu 2 pini pentru legătură.  
A = Alb

- Termostatul de ambient (24 Vdc) (T.A.) trebuie introdus după cum este indicat în schematică, după ce ati înălăturat jumperul de pe conectorul cu 2 căi (CN5)

**[DE] - Externe Anschlüsse**

- Die Niederspannungsverbraucher werden am Stecker CN6 wie in der Abbildung dargestellt angeschlossen:  
C.R. = T Fernsteuerung  
S.E. = Außenfühler
- Für die Herstellung der Anschlüsse von:  
T.B.T. = Niedertemperaturthermostat  
A.G. = allgemeiner Alarm  
die weiße Schaltbrücke, die sich am Stecker CN11 (12-polig) befindet und mit TbT gekennzeichnet ist, in der Mitte trennen, die Drähte auseinander ziehen und eine 2-polige Stromklemme für die Verbindung verwenden.  
A = Weiß
- Der Raumthermostat (24 Vdc) (T.A.) wird wie im Plan angegeben eingesetzt, nachdem der Bügelbolzen am 2-Wege-Stecker (CN5) entfernt wurde

greco

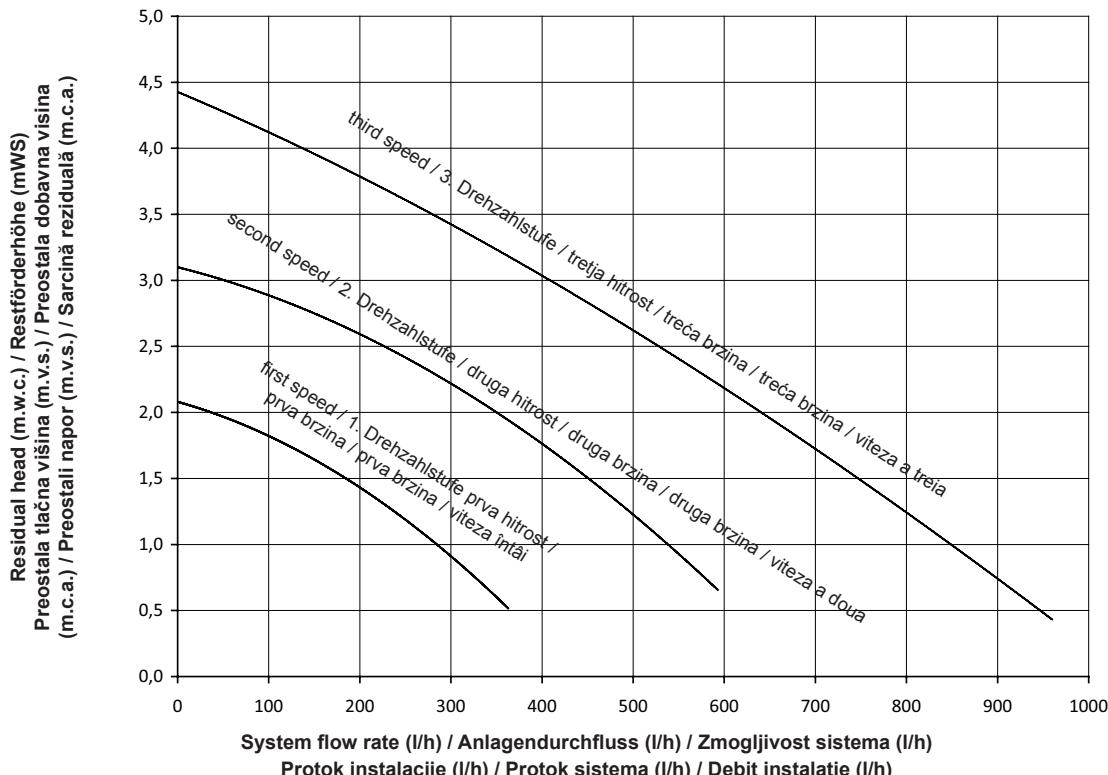


fig. 6

#### [EN] - RESIDUAL HEAD OF CIRCULATOR - 6-metre circulator

The residual head for the heating system is represented in graphic 1, according to the flow rate. The piping on the heating system must be sized taking into account the available residual head value. Bear in mind that the boiler will operate correctly if there is sufficient water circulation in the heat exchanger.

To this end, the boiler is fitted with an automatic by-pass which is designed to ensure water flow rate into the heat exchanger is correct under any installation conditions.

#### [SRB] - PREOSTALI NAPOR CIRKULACIONE PUMPE - korekcija klimatske krive

Preostali napor sistema za grejanje je prikazan, u funkciji od protoka, na grafikonu 1. Dimenzioniranje cevovoda sistema za grejanje mora se izvršiti imajući u vidu vrednost preostalog napora sa kojim se raspolaže.

Treba imati na umu da kotač radi ispravno ako u izmenjivaču grejanja postoji dovoljna cirkulacija vode.

U tu svrhu kotač je opremljen automatskim baj-pasom koji je zadužen za regulisanje ispravnog protoka vode u izmenjivaču grejanja u bilo kojim uslovima sistema.

#### [HR] - PREOSTALA DOBAVNA VISINA CIRKULACIJSKE PUMPE - cirkulacijska crpka 6 metara

Preostala dobavna visina za instalaciju grijanja predstavljena je, ovisno o protoku, grafikom 1. Mjerenje cijevi instalacije grijanja mora se vršiti vodeći računa o vrijednosti preostale raspoložive dobavne visine. Imajte na umu da kotač radi pravilno samo ako je u izmenjivaču topline grijanja cirkulacija vode dovoljna.

Zbog toga je kotač opremljen automatskim prenosnim ventilom koji omogućuje regulaciju pravilnog protoka vode u izmenjivaču topline grijanja u bilo kojim radnim uvjetima instalacije.

#### [SL] - PREOSTALA TLAČNA VIŠINA PRETOČNE ČRPALKE-pretočna črpalka 6 metrov

Preostala tlačna višina ogrevalnega sistema je na podlagi pretoka predstavljena v diagramu 1. Dimenzioniranje cevovodov ogrevalnega sistema se mora izvesti z upoštevanjem vrednosti razpoložive preostale tlačne višine.

Zavedati se je treba, da kotel deluje pravilno, če je v izmenjevalniku ogrevanja zadosten pretok vode. S tem namenom je kotel opremljen s samodejnim obvodom, ki skrbi za reguliranje pravilnega pretoka vode v izmenjevalniku ogrevanja v vseh pogojih sistema.

#### [RO] - SARCINA REZIDUALĂ A POMPEI DE CIRCULAȚIE-POMPĂ DE CIRCULAȚIE 6 METRI

Sarcina reziduală pentru instalată de încălzire este reprezentată, în funcție de debit, în graficul 1. Dimensionarea tuburilor instalării de încălzire trebuie efectuată înăndu-se cont de valoarea sarcinii reziduale disponibile. Rețineți că centrala funcționează corect dacă în schimbătorul de căldură din circuitul de încălzire circulația apei se desfășoară la un nivel adecvat. În acest scop, centrala este dotată cu un by-pass automat, care asigură reglarea unui debit de apă corect în schimbătorul din circuitul de încălzire, în orice condiții ale instalării.

#### [DE] - RESTFÖRDERHÖHE DER UMLAUPPUMPE -Umlaupumpe 6 Meter

Die Restförderhöhe für die Heizungsanlage wird durchflussabhängig in der Grafik 1 dargestellt. Die Größenbemessung der Leitungen der Heizungsanlage muss unter Berücksichtigung des Wertes der verfügbaren Restförderhöhe erfolgen.

Berücksichtigen Sie, dass der Kessel richtig funktioniert, wenn im Heizungswärmetauscher genügend Wasser zirkuliert. Zu diesem Zweck ist der Kessel mit einem automatischen Bypass ausgestattet, der den Wasserdurchfluss im Heizungswärmetauscher für jeden Zustand der Anlage richtig reguliert.

greco

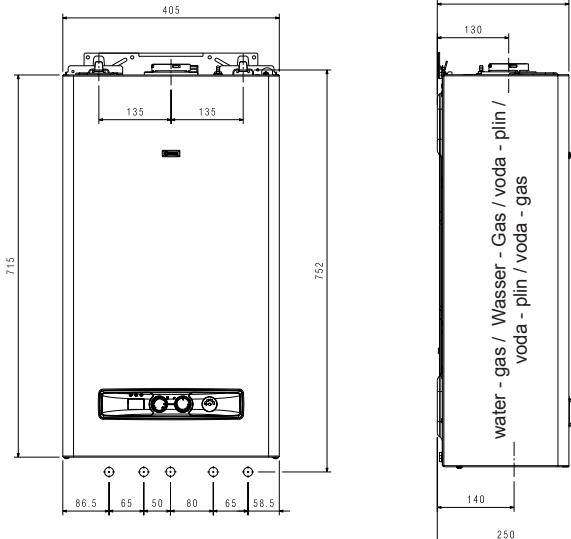


fig. 7

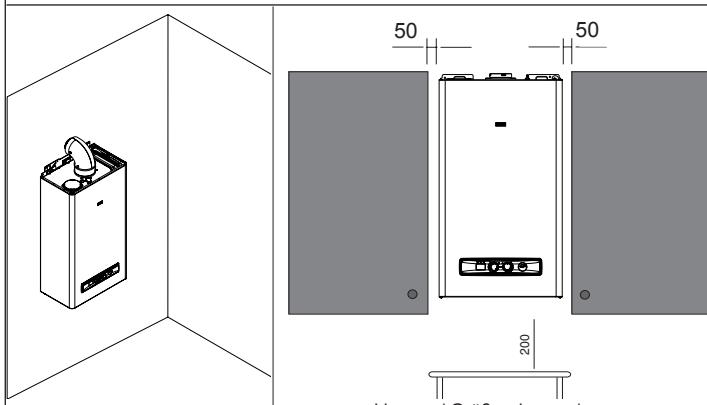
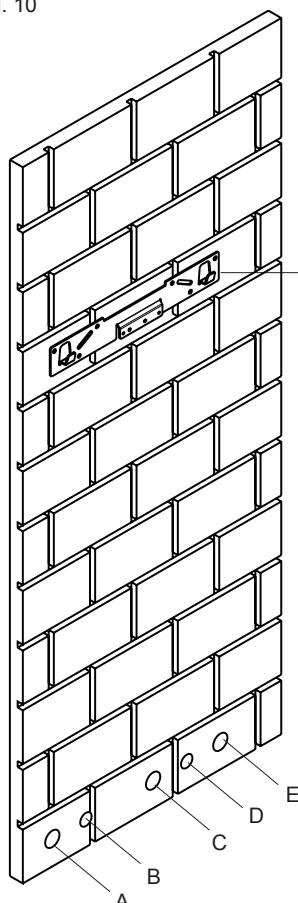


fig. 8

measured in mm / Größen in mm / mere v mm / mjere u mm / mere u mm / măsuri in mm  
fig. 9

fig. 10



boiler support plate  
Halteplatte für Heizkessel  
nosilna plošča kotla  
ploča nosač kotla  
ploča nosača kotla  
cadru de susținere centrală

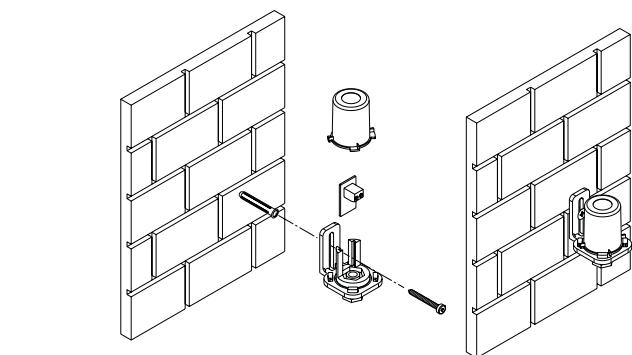


fig. 11

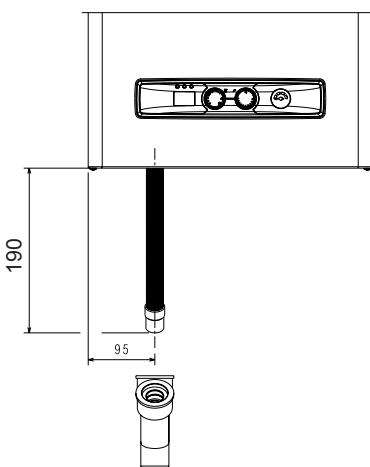


fig. 12

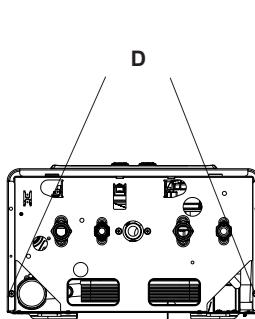


fig. 13

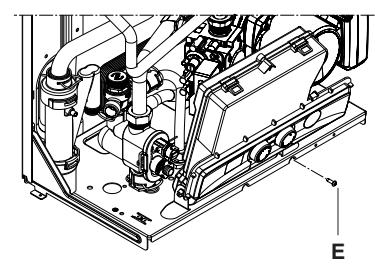


fig. 14

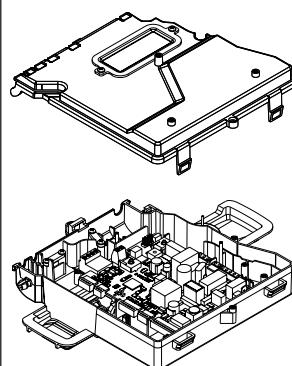


fig. 15

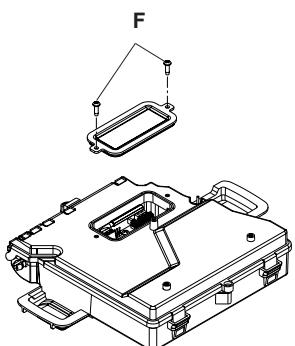


fig. 16

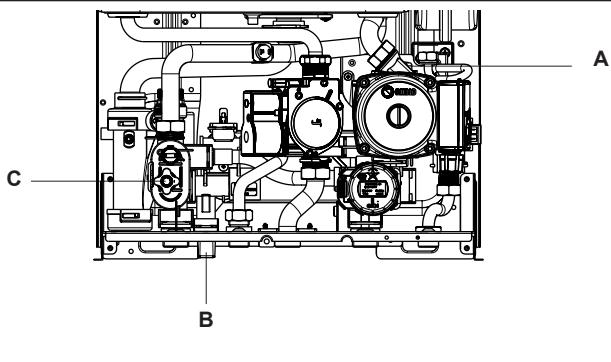


fig. 17

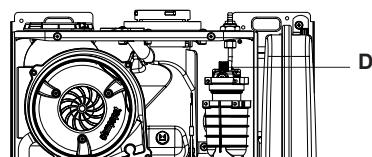


fig. 18

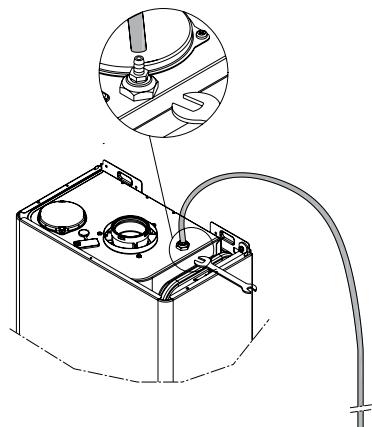


fig. 23

**POSSIBLE OUTLET CONFIGURATIONS**  
**MÖGLICHE ABFÜHRUNGSKONFIGURATIONEN**  
**MOŽNE KONFIGURACIJE ODVODA**  
**MOGUĆE KONFIGURACIJE ISPUSTA**  
**MOGUĆE KONFIGURACIJE ODVODA**  
**CONFIGURAȚII DE EVACUARE POSIBILE**

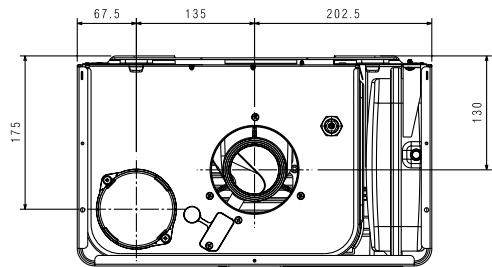


fig. 19

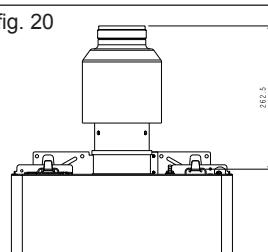


fig. 20

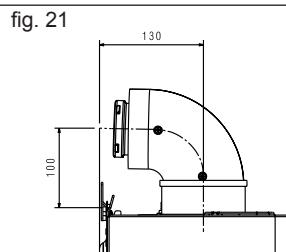


fig. 21

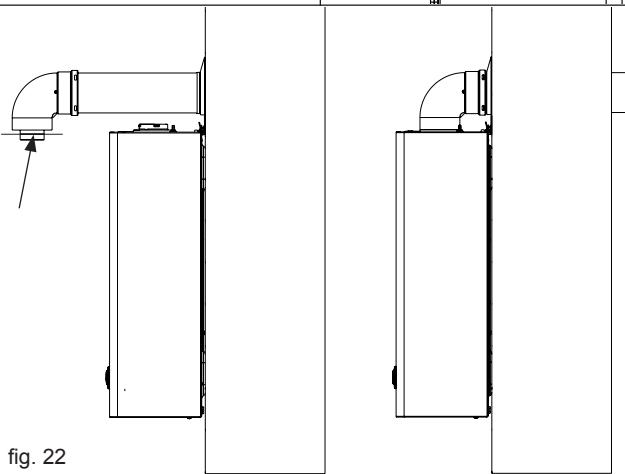
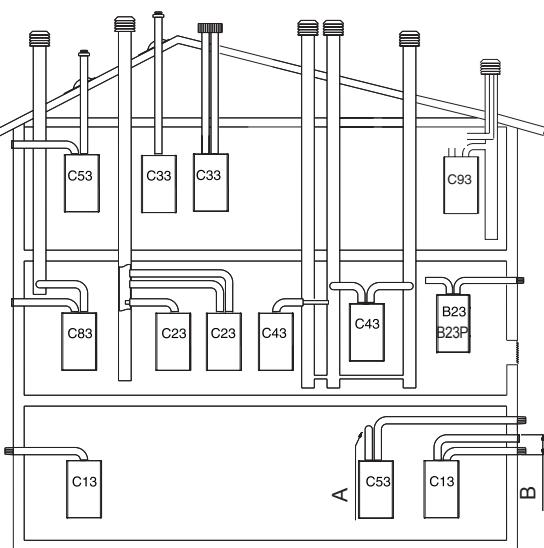
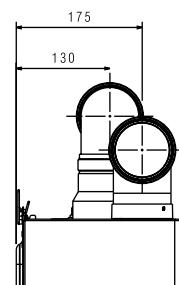
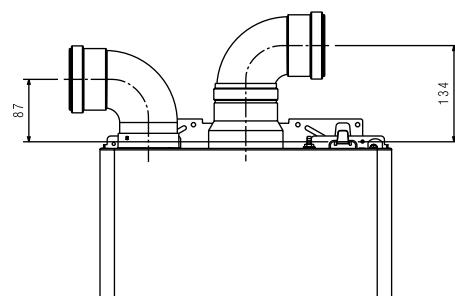


fig. 22



**A** rear outlet - **B** max 50  
**A** hinterer Ausgang - **B** max 50  
**A** izstop zadaj - **B** maks 50  
**A** stražnji izlaz - **B** maks 50  
**A** izvod sa zadnje strane - **B** maks. 50  
**A** ieșire posterioară - **B** max 50

fig. 24



fig. 25

CO button / CO-Taste / gumb CO / tipka CO / dugme CO / buton CO

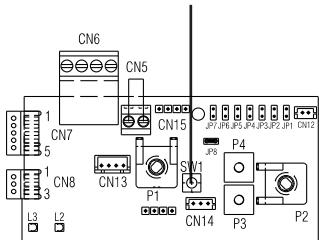


fig. 26

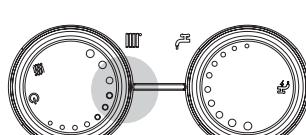


fig. 27

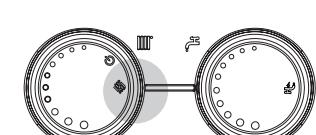


fig. 28



fig. 29



fig. 30

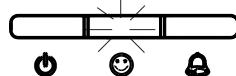
Yellow LED / gelbe LED  
rumena led lučka / žuta led dioda  
žuto led svetlo / led galben

fig. 31

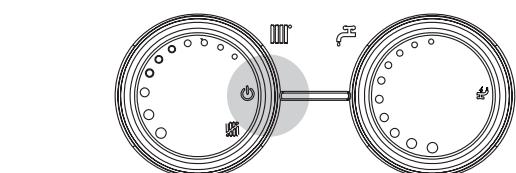
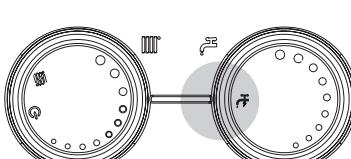


fig. 32

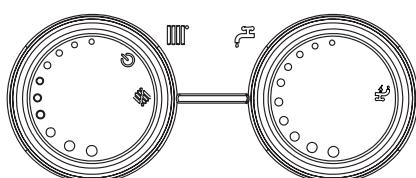


fig. 33

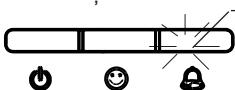
red LED / rote LED / rdeča led /  
Crvena led dioda / Crveni led / led  
rošu

fig. 34

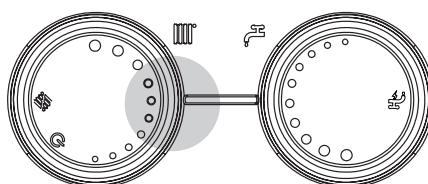
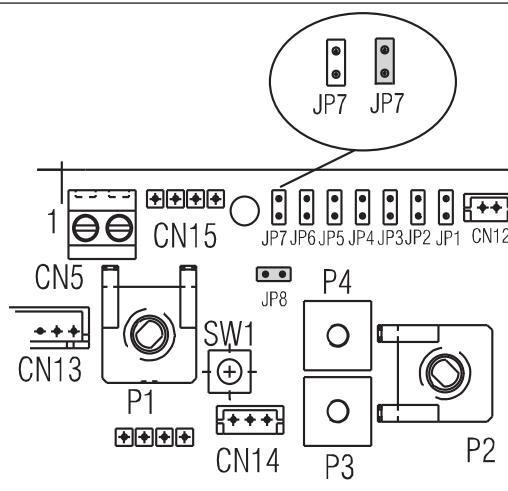
Automatic Temperature Control System (C.T.R.) / Funktion C.T.R.  
/ Funkcija C.T.R. / Funkcija C.T.R. (Sustav automatske  
regulacije ambijenta) / Funkcija C.T.R. / Funcție C.T.R.

fig. 35



fig. 36



JP7 Jumper not inserted - standard installation / Schaltbrücke nicht eingelegt - Standardanlage / Mostiček ni vstavljen, standardni sistem / Jumper koji nije umetnut standardna instalacija / Džamper nije ubačen standardni sistem / Jumper neintrodus instalatie standard

JP7 Jumper inserted - floor installation / Schaltbrücke eingefügt - Fußbodenanlage / Mostiček vstavljen, talno ogrevanje / Umetnuti Jumper instalacija na tlu / Džamper ubačen podni sistem / Jumper introdus instalatie în pardoseală

fig. 37

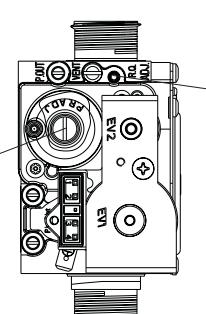
Minimum output adjustment screw  
Stellschraube niedrigste Leistung

Nastavitevni vijak najmanjše moči

Vijak za regulaciju minimalna snaga

Regulacioni vijak minimalna snaga

Surub de reglare putere minimă

Maximum output adjustment screw  
Stellschraube maximale Leistung

Nastavitevni vijak največje moči

Vijak za regulaciju maksimalna snaga

Regulacioni vijak maksimalna snaga

Surub de reglare putere maximă

fig. 38

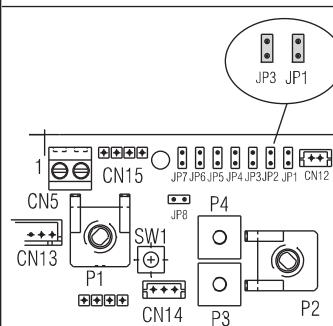


fig. 39

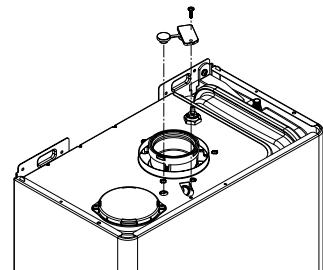
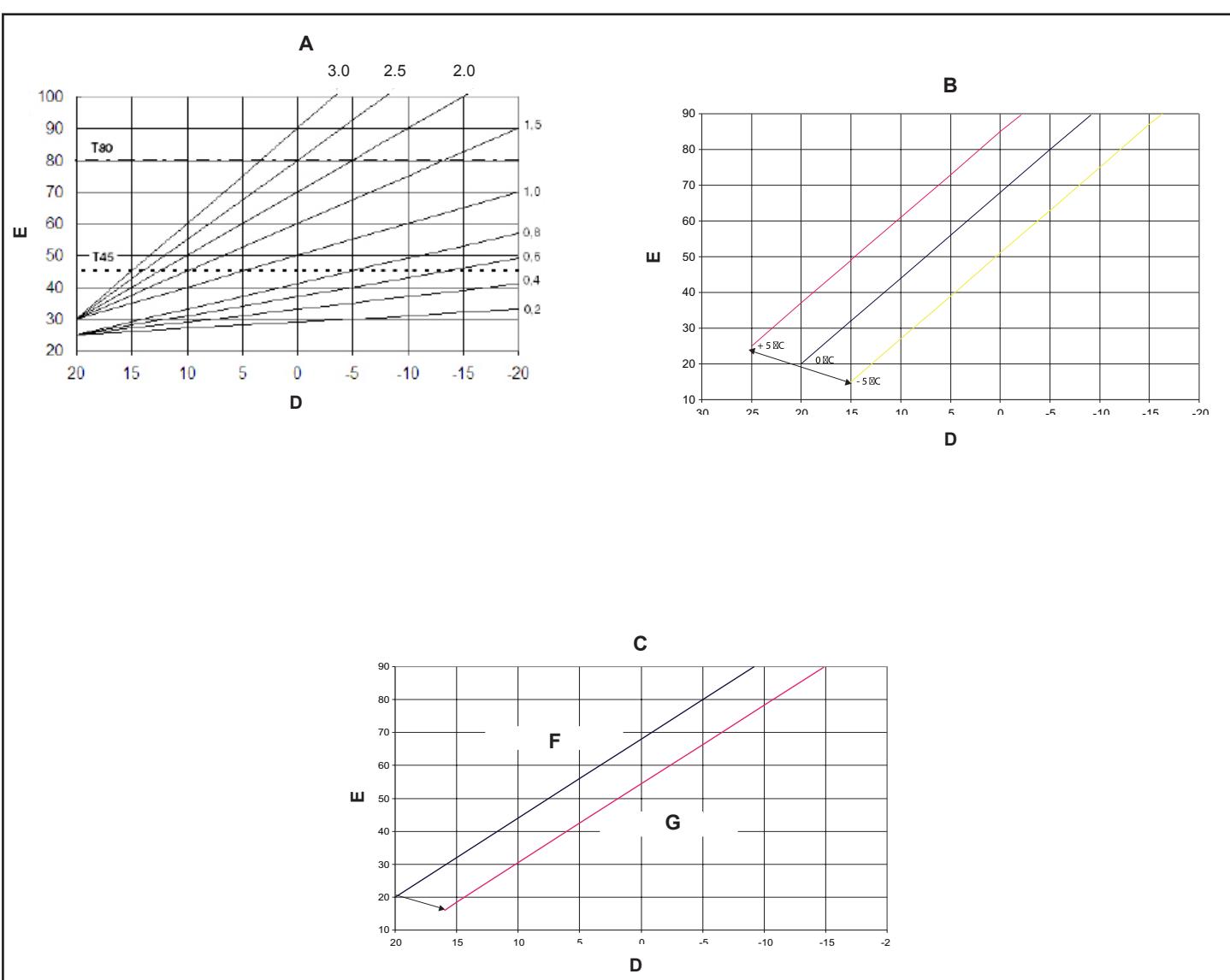
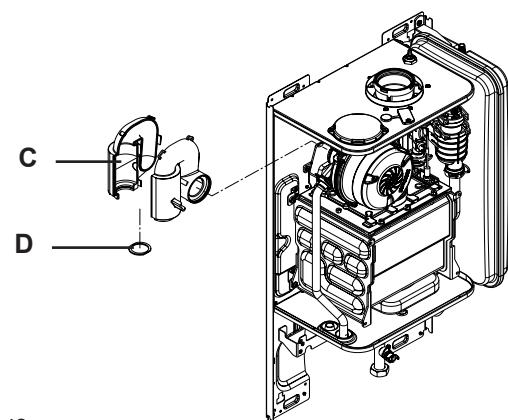
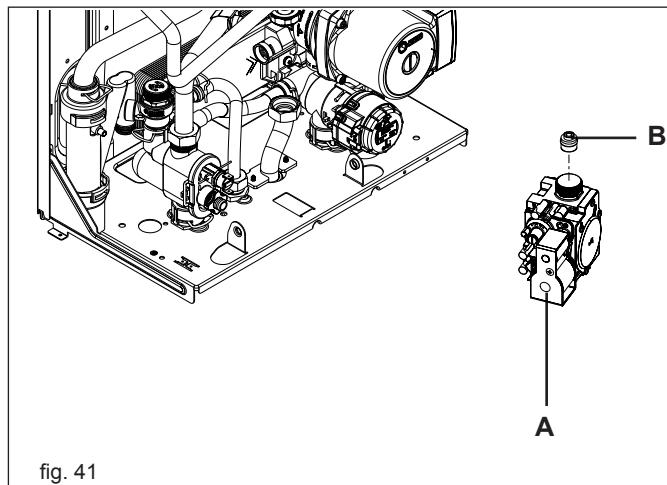


fig. 40



### [EN]

- A - GRAPH 1 THERMOREGULATION CURVES
- B - GRAPHIC 2 - WEATHER COMPENSATION CURVE
- C - GRAPHIC 3 - PARALLEL NIGHT-TIME REDUCTION
- D - OUTSIDE TEMPERATURE (°C)
- E - DELIVERY TEMPERATURE (°C)
- F - DAY temperature curve
- G - NIGHT temperature curve
- T80 std systems heating temperature set point (jumper pos.1 not inserted)
- T45 floor systems heating temperature set point (jumper pos.1 inserted)

**[SRB]**

A - GRAFIKON 1 - TERMOREGULACIONE KRIVE  
 B - GRAFIKON 2 - KOREKCIJA KLIMATSKE KRIVE  
 C - GRAFIKON 3 - PARALELNA NOĆNA REDUKCIJA  
 D - SPOLJNA TEMPERATURA (°C)  
 E - TEMPERATURA RAZVODNOG VODA (°C)  
 F - Klimatska kriva DAN  
 G - Klimatska kriva NOĆ  
 T80 zadata vrednost maksimalne temperature grejanja u sistemima std (džamper pozicija 1 nije ubačen)  
 T45 zadata vrednost maksimalne temperature grejanja u podnim sistemima (džamper pozicija 1 ubačen)

**[HR]**

A - GRAFIKON 1 - KRIVULJE TERMOREGULACIJE  
 B - GRAFIKON 2 - KOREKCIJA KLIMATSKE KRIVULJE  
 C - GRAFIKON 3 - SMANJENJE NOĆNE PARALELE  
 D - ZUNANJA TEMPERATURA (°C)  
 E - TEMPERATURA NA ODVODU (°C)  
 F - Klimatska krivulja DAN  
 G - Klimatska krivulja NOĆ  
 T80 potrebna vrijednost maksimalne temperature grijanja na standardnim instalacijama (jumper pol.1 koji nije umetnut)  
 T45 potrebna vrijednost maksimalne temperature grijanja na instalacijama na tlu (jumper pol.1 umetnut)

**[SL]**

A - DIAGRAM 1 - KRIVULJE TOPLITNE REGULACIJE  
 B - DIAGRAM 2 - POPRAVEK KLIMATSKE KRIVULJE  
 C - DIAGRAM 3 - NOĆNO PARALELNO ZNIŽANJE  
 D - ZUNANJA TEMPERATURA (°C)  
 E - TEMPERATURA NA ODVODU (°C)  
 F - Klimatska krivulja - DNEVNA  
 G - Klimatska krivulja - NOĆNA  
 T80 najviša temperatura nastavite ogrevanja std sistemov (mostiček poz.1 ni vstavljen)  
 T45 najviša temperatura nastavite ogrevanja talnih sistemov (mostiček poz.1 je vstavljen)

**[RO]**

A - GRAFIC 1 - CURBE DE TERMOREGLARE  
 B - GRAFIC 2 - CORECTARE CURBĂ CLIMATICĂ  
 C - GRAFIC 3 - REDUCERE NOCTURNĂ PARALELĂ  
 D - TEMPERATURĂ EXTERNĂ (°C)  
 E - TEMPERATURĂ TUR (°C)  
 F - CURBA TEMPERATURA ZI  
 G - CURBA TEMPERATURA NOAPTE  
 T80 temperatură maximă punct setat încălzire instalații standard (jumper poz.1 neintrodus)  
 T45 temperatură maximă punct setat încălzire instalații în pardoseală (jumper poz.1 introdus)

**[DE]**

A - GRAFIK 1 - KENNLINIEN DER TEMPERATURREGELUNG  
 B - GRAFIK 2 - KORREKTUR DER HEIZKURVE  
 C - GRAFIK 3 - PARALLELE NACHTABSENKUNG  
 D - AUSSENTEMPERATUR (°C)  
 E - VORLAUFTEMPERATUR (°C)  
 F - Klimakurve TAG  
 G - Klimakurve NACHT  
 T80 maximaler Heiz-Sollwert bei Standardheizanlagen (Schaltbrücke Pos.1 nicht eingefügt)  
 T45 maximaler Heiz-Sollwert bei Fußbodenanlagen (Schaltbrücke Pos.1 eingefügt)

**[EN] - RANGE RATED - EN483**

The rating for the heat output in heating mode is \_\_\_\_\_ kW  
 equivalent to a maximum fan speed in heating mode of  
 \_\_\_\_\_ rpm

Date \_\_\_\_/\_\_\_\_/\_\_\_\_

Signature \_\_\_\_\_

Boiler registration number \_\_\_\_\_

**[SRB] - RANGE RATED - EN483**

Vrednost za kalibriranje termičkog kapaciteta u sistemu za grejanje je \_\_\_\_\_ kW  
 što odgovara maksimalnoj brzini ventilatora u sistemu za grejanje od \_\_\_\_\_ obr/min

Datum \_\_\_\_/\_\_\_\_/\_\_\_\_

Firma \_\_\_\_\_

Serijski broj kotla \_\_\_\_\_

**[HR] - RANGE RATED - EN483**

Vrijednost baždarenja toplinskog opterećenja grijanja je  
 \_\_\_\_\_ kW  
 jednaka je maksimalnoj brzini ventilatora u načinu rada grijanja  
 \_\_\_\_\_ okr/min

Datum \_\_\_\_/\_\_\_\_/\_\_\_\_

Potpis \_\_\_\_\_

Broj registracije kotla \_\_\_\_\_

**[SL] - RANGE RATED - EN483**

Nastavljena vrednost toplotne zmogljivosti za ogrevanje je  
 \_\_\_\_\_ kW  
 enakovredna največji hitrosti ventilatorja pri ogrevanju je  
 \_\_\_\_\_ vrt/min

Datum \_\_\_\_/\_\_\_\_/\_\_\_\_

Podpis \_\_\_\_\_

Serijska številka kotla \_\_\_\_\_

**[RO] - GAMA DE PUTERI - EN 483**

Puterea max de încălzire a acestei centrale a fost reglată la \_\_\_\_\_ kW, echivalentul a \_\_\_\_\_ rpm viteză max ventilator încălzire.

Data \_\_\_\_/\_\_\_\_/\_\_\_\_

Semnătura \_\_\_\_\_

Numărul de identificare al centralei \_\_\_\_\_

**[DE] - GEWICHTET - EN483**

Der Einstellungswert des Wärmedurchsatzes im Heizbetrieb beträgt \_\_\_\_\_ kW  
 und entspricht einer maximalen Gebläsedrehzahl im Heizbetrieb von \_\_\_\_\_ U/Min.

Datum \_\_\_\_/\_\_\_\_/\_\_\_\_

Unterschrift \_\_\_\_\_

Seriennummer des Kessels \_\_\_\_\_

